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Vol. II

TRANSCRIPT OF RECORD

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, ~~1921.~~ 46

No. ~~12~~, Original 1960

THE STATE OF NEW MEXICO, COMPLAINANT,

vs.

THE STATE OF COLORADO

IN EQUITY

FILED OCTOBER 29, 1919

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1924

No. 12, Original

THE STATE OF NEW MEXICO, COMPLAINANT,

vs.

THE STATE OF COLORADO

IN EQUITY

VOLUME II

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[fol. 588] [Title omitted]

STIPULATION

Come now the parties above mentioned, and by their respective solicitors and counsels stipulate and agree:

That the State of Colorado may have leave to file herein its amended answer and amended cross-bill, and the State of New Mexico hereby acknowledges receipt of a copy of said amended answer and amended cross-bill, and also of a copy of the motion of the State of Colorado for leave to file said amended answer and amended cross-bill, and hereby waives any other or further notice of the presentation of said motion, and consents that said motion may be submitted and granted without further delay.

Dated February 29, 1924.

The State of New Mexico, by Frank W. Clancy, Its Special Counsel. The State of Colorado, by Wayne C. Williams, Its Attorney General. Charles Roach, Deputy Attorney General. Oliver Dean, Assistant Attorney General. Delph E. Carpenter, of Counsel for the State of Colorado.

[fol. 589] SUPREME COURT OF THE UNITED STATES

[Title omitted]

THE AMENDED ANSWER AND CROSS-BILL OF THE STATE OF COLORADO TO THE BILL OF COMPLAINT OF THE STATE OF NEW MEXICO

[fol. 590] To the Honorable the Chief Justice and Associate Justices of the Supreme Court of the United States:

The Amended Answer and Cross-bill of the State of Colorado to the Bill of Complaint of the State of New Mexico.

And now comes the State of Colorado, and for its amended answer, filed by leave of this Court, to said bill says:

I

This defendant admits that the ground upon which the Court's jurisdiction of the matters set forth in the bill of complaint depends, is that the said bill sets out a controversy between two states of which this Court has original jurisdiction.

II

This defendant admits that by the legislation of Congress, and by the Constitution of the State of New Mexico under which the said State was admitted into the Union of States, the northern boundary

line thereof extends along the 37th parallel of north latitude from the intersection of said parallel with the 32nd meridian of longitude west from Washington in an easterly direction to the point where said [fol. 591] parallel of latitude intersects the 103rd meridian of longitude west from Greenwich, and avers that the State of New Mexico was admitted into the Union of States on the 5th day of January, 1912.

III

This defendant admits that on the 7th day of July, 1902, Howard B. Carpenter, a United States Surveyor, entered into a contract with the United States to re-survey, re-establish, and re-mark the boundary line between Colorado and the Territories of New Mexico and Oklahoma, and that in pursuance of said contract the said Carpenter did thereafter proceed to re-survey, re-establish and re-mark the said boundary line as is shown by the record and field notes of his work, and admits that said field notes were approved by the then Commissioner of the General Land Office; but defendant avers that said Carpenter survey and his field notes of the said boundary line were never confirmed by the Congress of the United States, nor by either the State of Colorado, or the Territory or State of New Mexico, but that, on the contrary, an effort was made to confirm the said Carpenter survey in the first session of the 60th Congress, by the introduction in the Senate of Senate Joint Resolution No. 78, which passed the Senate and the House of Representatives, and was submitted to the President for his approval, and that the said Joint Resolution was on the 19th day of December, 1908, upon the advice of the Attorney General of the United States, disapproved by the President and returned to the Senate with his objections thereto, which Resolution, upon the same day, was laid upon the table by the Senate, and no further action has since been taken thereon by Congress, and the said Carpenter survey, and boundary line as shown by said field notes, failed to become effective in any respect and was never recognized by the General Land Office of the United States as the boundary line between Colorado and New Mexico. A copy of said veto message of the President is attached to Colorado's original answer on file herein, and by reference thereto is hereby made a part hereof.

[fol. 592] IV

This defendant denies that the line surveyed and established by the said Carpenter, as shown by his field notes, is the true or correct boundary line between the said two states; admits that in disregard of said Carpenter line it has exercised jurisdiction over a considerable amount of territory south of said Carpenter line, and has levied and collected taxes upon property south of said line, and through its Courts, has exercised both civil and criminal jurisdiction over persons and property lying south of said line, but denies that said acts, doings, pretenses or claims of the State of Colorado, or any of the same, are contrary to equity or good conscience or tend to the manifest or any wrong, injury or oppression of the State of New Mexico,

or of its citizens or owners of property within its boundaries, or that said acts or any thereof were or are unlawful or in usurpation of the jurisdiction, rights or authority of said State of New Mexico.

V

(a) For further defense to said bill of complaint, this defendant avers that in the Act of Congress, approved March 3rd, 1875, to enable the People of Colorado to form a Constitution and State Government, and be admitted into the Union, (18 Statutes at Large, 474), and also by the Constitution adopted by the vote of the People of Colorado, and under which the State of Colorado was admitted into the Union by Proclamation of President Grant, August 1st, 1876, the 37th parallel of north latitude between the 25th and 32nd meridians of longitude west from Washington, was fixed as the southern boundary line of that State.

(b) That in the year 1859, Captain Macomb, U. S. A., of the Topographical Bureau, under direction of the War Department, established a stone monument, known as the Macomb Monument, to mark the intersection of the 37th parallel of north latitude with the 103rd meridian of longitude west from Greenwich.

[fol. 593] (c) Pursuant to authority of an Act of Congress, approved March 2nd, 1867 (14 Statutes at Large, 466), and under a contract with the Commissioner of the General Land Office of the United States, Ehud N. Darling, United States Surveyor and Astronomer, by the most approved methods of the time, surveyed and established in the year 1868, the 37th parallel of north latitude so far as it constituted the boundary line between the Territories of Colorado and New Mexico, from said Macomb Monument westward, and marked the same upon the earth's surface by mile corners and monuments, as appears by the record and field notes of his work, a copy of which is attached to the original answer filed herein by said State of Colorado and by reference thereto is hereby made a part hereof, which field notes of said survey were examined and approved on the 30th day of April, 1869, by the Honorable Joseph S. Wilson, Commissioner of the General Land Office, as appears by his certificate to that effect attached to said field notes.

(d) On June 2nd, 1873, John J. Major, a surveyor and astronomer, entered into a contract with W. W. Curtis, acting Commissioner of the General Land Office of the United States, among other things, to well, truly and faithfully, by astronomical observations and geodetic measurements, establish in its true position so much of the south boundary of the Territory of Colorado as lay between the 25th and 103rd meridians of longitude west of Washington and Greenwich, respectively, as defined in Section 1 of the Act of Congress entitled "An Act to provide a temporary government for the Territory of Colorado" approved February 28, 1861, Stats. at Large, Vol. 12, page 172, and in pursuance of said contract, said Major did thereafter proceed to survey, establish and mark the line of said boundary

on the surface of the earth, beginning at the southwest corner of the State of Kansas, and running westerly to what is known as the Johnston Monument (which is about one mile and sixty-two chains westerly from said Macomb Monument), as appears by the record and field notes of his work, a copy of which record and field notes [fol. 594] beginning with the opening sentence thereof and including the part covering said survey from the said Major's 52.5 mile post to said Macomb Monument, together with said Major's oath of his performance of said contract, and the certificate of examination and approval by the Commissioner of the General Land Office of the astronomical observations and computations as well as field notes of the survey of said Major under said contract, is hereto attached and made a part hereof, and which record and filed notes having been examined and found correct, were approved July 29, 1874, by the Commissioner of the General Land Office, as appears by his certificate to that effect attached to said record and field notes. That said 52.5 mile post of said Major is about 21.97 chains easterly from the Preston Monument, hereinafter mentioned and described, and said mile post is the nearest determinable point in said field notes, easterly from said Preston Monument.

(e) In the month of June, 1900, Levi S. Preston, a United States Deputy Surveyor, working under and in pursuance of an agreement dated October 25, 1899, between Quinby Vance, Surveyor General of the United States for New Mexico, acting for and in behalf of the United States, and said Preston, and under and in pursuance of certain instructions given to him by the said Vance in connection with and made a part of said contract, which contract and instructions had theretofore and on February 26, 1900, been approved by the Commissioner of the General Land Office of the United States, retraced, re-marked and re-established the survey and line, established by said Major in 1874, from said Macomb Monument easterly for a distance of two miles and 40.53 chains to its intersection with the Cimarron meridian established by Chaney and Smith in 1881, at which point, in pursuance of said contract and said instructions, the said Preston set up a monument (which is sometimes called the Preston Monument) as and for the northeast corner of the Territory of New Mexico and as and for the intersection of said 37th parallel with said Cimarron meridian, which said Cimarron meridian is the boundary line between the States of New Mexico and Oklahoma, [fol. 595] and did establish said portion of said Major line as the north boundary of New Mexico between said Macomb Monument and said Preston Monument; and that thereafter and on May 7, 1901, the field notes and survey of said Preston for said lines were accepted and approved by said Quinby Vance as U. S. Surveyor General for New Mexico. A copy of said Preston's record and field notes of his said survey of said portion of the boundary between Colorado and New Mexico is hereto attached and made a part hereof.

(f) Defendant avers that for more than thirty (30) years, the position of said Darling line remained undisputed, and the correctness of its technical execution unquestioned, and as so established

the said Darling line has been generally recognized and acquiesced in by both of the States herein involved, and accepted by the Federal government, and is now recognized and accepted by the Federal government as the true and subsisting boundary line between Colorado and New Mexico from said Macomb Monument westward, and by reason of the right and title acquired as hereinbefore set forth, this defendant from the time said boundary was so established in 1868 to the present time, has held lawful and rightful possession of and exercised dominion and sovereignty, and now claims the same, over the territory down to the said southern boundary line as established by the said Darling, and no farther; county lines have been formed, towns and settlements have grown up, school districts, election districts, voting precincts, land districts and water districts have been created with reference to said line, public officers have been elected, property has been assessed, taxes levied and collected under the authority of the State of Colorado, and its courts of both civil and criminal jurisdiction have exercised unquestioned jurisdiction in all places north of said boundary line and the State of New Mexico has exercised like jurisdiction in all places south of said line. County maps, State maps, and maps prepared by the Federal government have for more than forty years last past delimitated said boundary according to said Darling survey, and government post [fol. 5961] offices have been established as being in Colorado when above said line, and in New Mexico when below said line, and public land surveys on both sides of said line were closed thereon, lands have been disposed of, rights acquired and political boundaries in both Colorado and New Mexico fixed by reference to said line.

(g) That since 1874 the said Major survey and marking of said 37th parallel has been the recognized and accepted south boundary of Colorado from the southwest corner of Kansas westward to said Macomb Monument, and since the acceptance of the Preston survey, retracement and re-marking of the Major line, in the years 1901, as hereinbefore alleged, said Major line as retraced and re-marked by Preston between said Macomb Monument and said Cimarron meridian has been and now is the boundary between Colorado and New Mexico from said Macomb Monument to said Preston Monument.

(h) The 37th parallel of North latitude, as established by Howard B. Carpenter, passes through several towns lying wholly within the State of Colorado, according to the boundary as originally surveyed by Darling, and along the entire line there is a material and in many places, excessive variance between the lines of said two surveys, and the effect of said Carpenter survey if declared the true boundary line would be to remove a considerable strip of territory which is now within the State of Colorado, according to the Darling survey, and place it in the State of New Mexico. The line attempted to be established by said Carpenter passed 93 links south of said Macomb Monument and 110 links south of said Preston Monument, and departed from the boundary lines established by both Darling and Preston, and said Carpenter line, if adopted, would remove a con-

siderable strip of territory from the State of New Mexico in the vicinity of said Macomb and Preston Monuments and place it in the State of Colorado.

(i) The said Carpenter survey consisted of a new fixation of the [fol. 597] 37th parallel of north latitude independent of the line established by Darling in 1868, and by Major in 1874 (retraced and reestablished by Preston in 1900), and not only failed of confirmation by Congress, but the Federal Government up to the present time has declined to recognize the said Carpenter survey as the true boundary line between the said two States, and on the contrary has accepted and still accepts the said Darling and Major surveys as the true and correct boundary line between said two States.

All of which matters and things as hereinbefore stated, this defendant avers to be true and this defendant pleads the same in bar to the bill of complaint, and prays the judgment of the Court whether it shall further answer said bill.

Wherefore, having answered fully all the matters in plaintiff's bill set forth, defendant prays this Honorable Court that the prayer thereof be not granted, but that the line surveyed, established and marked by the said Darling from said Macomb Monument westward, and the line surveyed, established and marked by said Major, and retraced and re-marked by said Preston, between said Macomb Monument and said Preston Monument, be by this Honorable Court decreed to be the true boundary line between the said two States, and that the said bill be dismissed and the defendant go hence with its costs in this behalf incurred, and that this defendant have such other and further relief as may be found necessary and as to the Court shall seem meet and proper.

[fol 598] Amended Cross-bill

And now by way of amended cross complaint and for affirmative relief against the plaintiff, your orator, the State of Colorado, shows to the Honorable the Chief Justice and Associate Justices of the Supreme Court of the United States:

That the true boundary line between plaintiff and defendant is described in the foregoing amended answer and is fully and correctly shown and delineated in the field notes and survey made in 1868, by Ehud N. Darling, attached to the original answer of the State of Colorado herein, and by reference made a part of the amended answer of the State of Colorado and a part of this amended cross-bill, and in the field notes and survey of said John J. Mayor and in the field notes and survey of said Levi S. Preston, retracing, remarking and reestablishing said Mayor line from the Macomb Monument to the Preston Monument on the Cimarron meridian, attached hereto and made a part of this amended cross-bill as well as a part of said amended answer, and for this amended cross-bill defendant adopts the allegations of fact contained in the foregoing amended answer and makes the same a part of this amended cross-

bill, as fully and to all intents and purposes as if the said allegations were set out in detail in this amended cross-bill; and defendant further avers the said Carpenter in making his said survey destroyed and obliterated many of the monuments and corners established by said Darling in making his said survey.

Wherefore, your orator, to the end that it may obtain the relief to which it is justly entitled, and avoid future controversies in reference hereto, prays the Court to grant unto your orator such process of this Honorable Court as may be appropriate to require the plaintiff, the State of New Mexico, to appear and answer (not under oath, answer under oath being hereby expressly waived) to the several allegations in this amended cross-bill contained; and that upon the final hearing hereof the true southern boundary line of [fol. 599] the State of Colorado and the northern boundary line of the State of New Mexico, be declared and decreed by this Court to be the line established as aforesaid by Ehud N. Darling in the year 1868, and by said Major and Preston in 1874 and 1900 respectively, and as the same is shown by the field notes of their work, attached hereto and to the original answer of the State of Colorado herein, and made a part hereof, and that the defendant have such other and further relief as may be found necessary in order to correctly restore, re-establish and re-mark said lines as the boundary line between the plaintiff and defendant, and as to the Court shall seem meet and proper, and that the defendant have and recover its costs herein incurred.

The State of Colorado, by Wayne C. Williams, Its Attorney General, Charles Roach, Deputy Attorney General, Oliver Dean, Assistant Attorney General, Delph E. Carpenter, of Counsel.

[fol. 600] EXHIBIT TO AMENDED ANSWER AND CROSS-BILL

Field-notes of John J. Major, U. S. Surveyor and Astronomer, of a Portion of the Suthern Boundary of Colorado

"Ran west from the corner of Kansas, Colorado and Indian Territory * * *

* * * * * * *

"* * * Planted a seasoned pine post 5 feet x 5 in
32 M x 5 deeply marked "C. 37 L. 1874. Built mound of earth & stone dug trench. Bearings. A butte S. by E. distant ¾ mile. A butte N. by E. distant about 17 chains. Thence gradual decline through valley, land level, soil improving to end of 80 chs. Made excava-
33 M tion planted a seasoned pine post 5 ft. x 5 in deeply marked "C "37 L. 1874. Built mound of earth with trenches & pits. Bearings Mountain butte S. 33° 30' W. distant 1 mile. Lone symmetrical butte N. 77° 40' E.

distant $^3/_4$ miles. Thence through valley, the latter part of mile just north of high mountain; 80 Chs. terminating on north edge of mountain side among very large

54M boulders. Could get no bearings. Built monument of stone; marked large boulder on South of line, but north face "37 L, another north of line and south face "C, 1874." Mag. Variation 13° E. at 2 P. M. Begin very steep ascent 260 feet to top of bluff and over narrow neck of ridge putting down N. by E. 20 chs. to edge of steep side of mountain, almost perpendicular descent 200 ft. to small valley at 40 chs. This valley heads a short distance South and bears down N. N. E. to a larger one that comes from W. to E., then turns to S. E. and S. Thence up mountain side over rocky slope 62.50 chs. near north end of rocky cliff cross and descend to small

Macomb's Monument valley and ascend 230 ft. to east edge of mountain and Capt. Macomb's monument to mark the 103° Meridian.

55M It is a large stone mountain 10 feet in diameter at base

$22^1/_2$e 8 feet high and cap stone marked "C. N. M. IT.1868."

[fol. 601] Removed the monument for further information but found none. Mr. Darling had built over Macomb's original monument. Rebuilt this monument so that it stands as Darling left it. * * *

* * * * * * *

"I, John J. Major, U. S. Astronomer & Surveyor do solemnly swear that in pursuance of a contract with the Commissioner of the General Land Office bearing date June 2, 1873, and in strict conformity to the Special Instructions of the Commissioner have faithfully surveyed and marked that portion of the Southern Boundary of Colorado, included between the 25th Meridian west from Washington and the 103° Meridian west from Greenwich, also that portion of the Boundary of New Mexico embraced between the parallels of 36° 30' & 37° and do further swear that the foregoing are the true and original field notes of such survey.

John J. Major, U. S. Astronomer & Surveyor.

"Subscribed by said John J. Major, U. S. Astronomer & Surveyor and sworn to before me, a justice of the peace of the District of Columbia this 25th day of July, A. D. 1874. J. Tyler Powell, Justice of the Peace." (Seal.)

[fol. 602] "Department of the Interior,

General Land Office,

Washington, D. C., July 29, 1874.

The foregoing astronomical observations and computations as well as fields notes of the survey of that portion of the Southern Boundary of Colorado Territory included between the 25th Meridian West

from Washington and the 103rd Meridian West from Greenwich, also of that portion of the Eastern boundary of the Territory of New Mexico lying between the 36° 30′ and 37° parallel of North Latitude, as executed by John J. Major, Astronomer and Surveyor, in conformity with his contract with the Commissioner of the General Land Office, bearing date June 2d, 1873, having been examined and found correct, are hereby approved.

S. S. Burdett, Commissioner."

[fol. 603] EXHIBIT TO AMENDED ANSWER AND CROSS-BILL

"Field-notes of the Survey of a Portion of the Boundary Line Between Colorado and New Mexico as surveyed by Levi S. Preston, U. S. Deputy Surveyor, under His Contract No. 336, Dated October [illegible] 1899

Survey commenced June 28, 1900.
Survey completed June 29, 1900.

	N. Bdy. N. Mex. E. of Mon.			C i M m e a r r i o , d n i a n
Macomb Monument	1st m.	2nd m.	3rd m.	

"Retracement of Portion of N. Bdy. of New Mexico

Chains

From the point on State line bet. Rs. 36 and 37 E., whence the Macomb monument, heretofore described, bears West 48.43 chs. dist. in plain sight; I turn angle of 90 and run

West on random line on boundary line bet. Colorado and N. Mexico.

48.43 To monument established by Capt. Macombe in 1859 and heretofore described.

127.93 To 1st rifle stone West of Macombe monument. Sandstone 8 + 9 + 28 ins. in mound of stones marked 1 M. on E. N. M. on S. and Col. on N. Face and properly witnessed [fol. 604] by mound of stone, bears N. 20 lks. dist.

Chains

196.58 The monument established by Lt. Col. Johnson in 1857, bears N. 70 lks. dist., a mound of earth 15 ft. base, 1 ft. high with grass growing on same and surrounded by a circular trench 24 ft. in diam. also find sandstone 24 + 19 + 5 ins. lying near, marked 103° L., 37° L., N. M. Major 1874, evidently stone set in Johnsons Monument by Major in 1874.

I reset stone in center of mound so that it reads

"103° L. on E.

"1874 N. M. Major on W.

37° L. on N. as described in field notes furnished me by the Surveyor General. I therefore conclude that the corner established by Macomb in 1859 was formerly used as the N. E. Cor. of New Mexico in running the Colo. and N. M. bdy. I find the course from Macomb Monument to first mile to be N. 89° 51' W. 79.50 chs. Thence N. 89° 35' W. 68.65 chs. to Johnson Monument.

June 28th, 1900.

"Survey of a Portion of N. Bdy. of N. Mex.

On June 29, 1900, I set up at the monument established by Capt. Macomb, heretofore described at 0h. 47m. a. m. to 1h. 0m. a. m., 1 m.t., I observe Polaris at Eastern elongation, in accordance with manual of instructions and mark the line thus determined by tack in peg set firmly in ground 5 chs. N. of my station.

At 7h. a. m., 1 m.t., I lay off azimuth of Polaris 1° 32' to the West and drive tack in peg 5 chs. North on the true meridian thus established. The magnetic bearing of said true meridian at 7 a. m., 1 m. t., is N. 12° 24' W. The angle thus determined reduced by table on page 100 of
[fol. 605] the 1894 manual gives mean mag. decl. 12° 21' E. I then turn angle 90° and run

East on true line on boundary line bet. Colorado and New Mexico.

1.00 E. edge of mesa, bears N. and S.
Descend.

13.43 Arroyo 50 links wide, in bottom of canon, course N. Ascend.

18.00 Point of mesa bears N. and S.
Descend.

33.00 Arroyo in bottom of canon 75 links wide, course S. Ascend.

48.43 To point of intersection of line bet. Rs. 36 and 37 E. heretofore described.
Ascend.

56.33 W. edge of mesa, bears N. W. and S. E.; thence over mesa covered with scattering pinons.

Chains

58.40 E. edge of mesa, bears N. W. and S. E.
Descend slope.
68.00 Bottom of slope, bears N. and S.
80.00 Set sandstone 20 + 15 + 9 ins. 15 ins. in ground for 1 mile stone on North boundary of New Mexico East of the Macomb monument at a point (7) links N. of tangent to parallel marked 1 M. E. on W., N. M. on S. and Col. on N. faces; dug pits 24 + 18 + 12 ins. E. and W. of cor. crosswise of line 4 ft. dist. and raised mound of earth and stones 4 ft. base, 2 ft. high N. of cor.
Land mountainous.
Soil 4th and 3rd rate.
Timber scattering pinons and cedars.
Mountainous land 80 chs.

Thence East on true line on 2nd Mile East of Macomb monument, along foot of mesa.
30.00 Amongst large boulders at foot of North slope of [fol. 606] mesa.
50.00 Leave large boulders.
80.00 Set sandstone 20 + 15 + 6, ins. 15 ins. in ground for 2nd mile stone on N. Mdy. of N. Mex. East of Macomb monument at (2.8) links North of tangent to parallel, marked 2 M. E. on W., N. M. on S. and COL. on N. faces; dug pits 24 + 18 + 12 ins. E. and W. of cor. 4 ft. dist. crosswise of line and raised mound of earth 4 ft. base, 2 ft. high N. of cor.
Land rolling valley and mesa slope.
Soil 2nd and 3rd rate.
No timber.
Mountainous land 50. chs.

Thence East on true line on fract'l 3rd mile East of Macomb monument over rolling valley.
40.53 Intersect Cimarron Meridian 14.14 chs. South of monument erected by Smith and Chaney. A sandstone 50 + 14 + 14 ins. above ground marked, '103° W. L.' on S., '37° N. L.' on E. 'Colorado' on N., and '1881' on W. faces, as described in field notes furnished me by the Surveyor General, at a point (5) links N. of tangent to parallel. I set sandstone 60 + 12 + 12 ins. 36 ins. in ground, for closing cor. of boundary line between Colorado and New Mexico, on Cimarron Meridian as per special instructions from the Surveyor General, marked 'N. E. Cor. N. M.' on S.,

C. C.

Chains

C. M. 6n E. 1900 on W. and Cobo. on N. faces. dug pits 30 + 24 + 12 ins. N. and S. of cor. 4 ft. dist. and
[fol. 607] W. of cor. 8 ft. dist and raised mound of earth and stones 4 ft. base, 2 ft. high W. of cor.

From + marked on top of stone the cor. to secs. 18 and 19 T. 6 N., R. 1 E. in Oklahoma, which is in plain sight, bears S. 1 M. 28.60 chs. dist.
A butte bears S. 59° 09' E. 3 miles dist.
A Butte bears S. 40° 35' E. 1½ M. dist.
Sugar Loaf Butte bears S. 62° 50' W. 1½ miles dist.
Land rolling valley.
Soil 2nd rate.
Good grass.
No timber.

June 29, 1900.

* * * * * * *

"Final Oath of U. S. Deputy Surveyor.

I, Levi S. Preston, U. S. Deputy Surveyor, do solemnly swear that in pursuance of a contract received from Quinby Vance, Esq., U. S. Surveyor General for New Mexico, bearing date of the twenty-fifth day of October, 1899, I have well, faithfully, and truly in my own proper person, and in strict conformity with the instructions furnished by the U. S. Surveyor General for New Mexico, the Manual of Surveying Instructions and the laws of the United States, surveyed all those parts or portions of the boundary line between Colorado and New Mexico, and retracement of part of the N. bdy. of New Mexico, of the principal base and meridian in the Territory of New Mexico, which are represented in the foregoing field notes as having been surveyed by me and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions and the special written instructions of the U. S. Surveyor General for New Mexico, and in the specific manner described in [fol. 608] the field notes, and that the foregoing are the true field notes of such survey; and should any fraud be detected I will suffer the penalty of perjury under the provisions of an act of Congress approved August 8, 1846.

Levi S. Preston, U. S. Deputy Surveyor.

Subscribed by said Levi S. Preston and sworn to before me this 30th day of July, 1900. A. L. Hobbs, Probate Clerk. by W. M. Oliver Deputy. R. S. (Seal.)

"Approval.

Office of the U. S. Surveyor General.

Santa Fe, N. Mex., May 7th, 1901.

The foregoing notes of the survey of a portion of the Boundary Line between Colorado and New Mexico, and retracement of a portion of the North Bdy. of New Mexico, as executed by Levi S. Preston, U. S. D. S., under his Contract No. 330, dated Oct. 25, 1900 [1899], having been critically examined, and the necessary corrections and explanations made, the said field notes and the surveys they describe, are hereby approved.

Quinby Vance, U. S. Surveyor General.

"I certify that the foregoing transcript of the field notes of the survey of a portion of the boundary line between Colorado and New Mexico, and retracement of a portion of the North boundary of New Mexico, in the Territory of New Mexico, has been correctly copied from the original notes on file in this office.

Quinby Vance, U. S. Surveyor General."

[fol. 609] SUPREME COURT OF THE UNITED STATES

[Title omitted]

STIPULATION AND ADDITION TO AMENDED BILL AND AMENDED CROSS-BILL—Filed Mar. 18, 1924

Come now the parties above named, and by their respective solicitors and counsel, stipulate and agree as follows:

1. That the field notes of Elliot N. Darling together with the oaths and certificates accompanying the same, and also the veto message of President Roosevelt, attached to the original answer and cross-bill filed herein by said State of Colorado, may be considered by the Court as though the same were attached to and made a part of the amended answer and amended cross-bill of the state of Colorado.

2. That the field notes of John J. Major and the field notes of Levi S. Preston, attached to said amended answer and amended cross-bill, shall be considered as offered and admitted in evidence as they appear in said amended answer and amended cross-bill, without being further offered, admitted, identified or authenticated.

[fol. 610] 3. That the evidence heretofore taken in this cause shall be received and considered by the Court as though the same had been taken subsequently to the filing of defendant's amended answer and amended cross-bill.

4 It is stipulated and agreed that the following facts may be taken and considered by the court as true, to the same extent as though proof thereof had been made by competent evidence:

(a) That on June 2nd, 1873, John J. Major, a surveyor and astronomer, entered into a contract with the Acting Commissioner of the General Land Office of the United States, among other things, to "well, truly and faithfully, by astronomical observations and geodetic measurements, establish in its true position on the surface of the earth so much of the South boundary of the Territory of Colorado as lay between the 25th meridian of longitude West from Washington and the 103rd meridian of longitude West from Greenwich, as defined by Section 1st of the Act of Congress entitled "An Act to Provide a Temporary Government for the Territory of Colorado," approved Feb. 28, 1861, Stats. at Large, Vol. 12, page 172, and that in pursuance of said contract, said Major thereafter surveyed and marked the line of said boundary on the surface of the earth from the southwest corner of Kansas westerly to the Macomb Monument (also a distance of one mile and sixty-two chains westerly from said Macomb Monument to the Johnston Monument) as appears by that portion of the record and field notes of his work and the certificate of examination and approval by the Commissioner of the General Land Office attached to the amended answer and cross bill of the State of Colorado herein.

(b) That Levi S. Preston, a Deputy United States Surveyor, working under and in pursuance of an agreement and special instructions, [fol. 611] dated October 25th, 1899, with the Surveyor General of the United States for New Mexico, theretofore approved February 26, 1900 by the Commissioner of the General Land Office of the United States, retraced, remarked and re-established the survey and line theretofore established by John J. Major in 1874, from the Macomb Monument easterly for a distance of 2 miles and 40.53 chains to the intersection of said line with the Cimarron meridian theretofore established by Chaney and Smith in 1881, at which point, in pursuance of said contract and instructions, said Preston established a monument, known as the "Preston Monument," as and for the northeast corner of the Territory of New Mexico and as and for the intersection of the 37th parallel with said Cimarron Meridian, which meridian is the boundary line between the States of Oklahoma and New Mexico, and that a copy of the field notes of said retracement and survey by said Preston, accepted and approved in 1901, are attached to the Amended Answer and Cross-Bill of the defendant herein.

(c) That, except as may otherwise be shown by the record in this case as now made, for more than thirty years the position of the Darling line, from the Macomb Monument to the intersection of the 37th parallel North latitude with the 103th meridian of longitude West from Greenwich, remained undisputed and the correctness of its technical execution unquestioned, and as so established, the said Darling line has been recognized and acquiesced in by the United

States, by the Territory and State of Colorado, by the Territory of New Mexico and by the State of New Mexico except as otherwise indicated by the bringing of this suit, and has been and is now recognized and accepted by the Land Department of the United States, in its surveys of the public domain, as the boundary line be- [fol. 612] tween Colorado and New Mexico from the Macomb Monument westward, except so far as may otherwise appear (if it does otherwise appear) by the record in this case; that from 1868 to the present time the Territory and later the state of Colorado, defendant herein, has claimed and exercised dominion and sovereignty, and now claims the same, over the territory down to the boundary as established by said Darling and no farther, that county lines have been formed, towns and settlements have grown up, school districts, election districts, voting precincts, and land districts and water districts have been created with reference to said line; public officers have been elected, property has been assessed and taxes levied and collected under the authority of the Territory and State of Colorado, and its courts of both civil and criminal jurisdiction have exercised jurisdiction in all places north of said Darling line and the Territory and State of New Mexico has exercised like jurisdiction in all places south of said line; that government postoffices have been established as being in Colorado when north of said line and as in New Mexico when south of said line, and that public land surveys on both sides of said line have been closed thereon, lands have been disposed of, rights acquired and political boundaries in both Colorado and New Mexico have been fixed by reference to said line.

(d) That since 1874, the Major survey and marking of the 37th parallel of North latitude from the southwest corner of Kansas westward to the Macomb Monument has been the recognized and accepted South boundary of Colorado between said points and since the acceptance of the Preston survey, retracement and remarking of said line, in the year 1901, said line as remarked and retraced by Preston between said Macomb Monument and the Preston Monument, at the [fol. 613] intersection of said parallel with the Cimarron Meridian, has been and now is the recognized and accepted boundary between Colorado and New Mexico at all points between said Monuments.

3. It is further stipulated and agreed that the map or plat of fractional township 32, north of range 37 east of the New Mexico Principal Meridian, and showing adjoining sections in Oklahoma and Colorado, the location of the Macomb Monument and the location of the Preston Monument, the northeast corner of New Mexico, certified October 22, 1923, by Geo. R. Wickham, Acting Commissioner of the General Land Office, under the seal of the United States General Land Office, to be a true exemplification from the original on file in his office, may be admitted in evidence and considered by the Court as though offered before one of the examiners appointed by the Court and may be marked and introduced as "Colorado's Exhibit 22."

6. Whereas the defendant, through oversight, has heretofore failed to offer in evidence a letter dated July 11, 1922, with attached memorandum, written by E. Lester Jones, Director of the U. S. Coast and Geodetic Survey, Department of Commerce, Washington, D. C., addressed to William R. Ramsey, and desires to have the same appear as a part of the evidence in this case;

It is stipulated and agreed that said letter, which is hereto attached and marked "Colorado's Exhibit 23" shall be taken and received in evidence the same as though it had been offered before one of the examiners appointed by the Court, subject to complainant's objection that it is irrelevant and incompetent as evidence, because it sets forth the evidence of a witness not under oath nor produced for cross-examination, and can be considered only as a statement of the opinions and views of a person whose official position seems to give them [fol. 614] weight, the same as they might have if he had published them in a book treating of the same subject about which he writes.

Dated February 29, 1924.

The State of New Mexico, by Frank W. Clancy, Its Special Counsel. The State of Colorado, by Wayne C. Williams, Its Attorney General. Chas Roach, Deputy Attorney General. Oliver Dean, Assistant Attorney General. Delph E. Carpenter, of Counsel for the State of Colorado.

[fol. 615] COLORADO'S EXHIBIT No. 23

Address the Director U. S. Coast and Geodetic Survey, and refer to No. 15/AE.

Department of Commerce

U. S. Coast and Geodetic Survey

Washington

July 11, 1922.

Mr. William R. Ramsey, Washington, D. C.

DEAR SIR: In response to your verbal inquiry I am glad to furnish you the following information regarding the accuracy of the astronomic observations in determining lititude.

In determining latitude by astronomic methods, the principle followed is to determine the angle between a known celestial body, such as the sun or a star, and the observer's zenith. Different instruments are used and different degrees of accuracy are obtaind, yarying from an error of one or two miles in sextant observations at sea to an error of 10 to 20 feet with large instruments on shore. This error of ten-to twenty feet must be understood to mean that any one station could be reoccupied and the observed latitude would agree with the preceding latitude within that distance.

It is usual to conceive of the earth as being marked off into geographical compartments by parallels and meridians which are

smooth curves, properly spaced upon the ellipsoidal surface of the earth. As a matter of fact, the parallels and meridians are uniform in curvature and properly spaced only when located by triangulation and computed upon an ellipsoid which closely fits the shape of the portion of the earth delineated. When located by astronomic methods they are uniform neither in curvature nor in spacing. The reason for this is easily explained.

In astronomical observations for latitude or longitude, the observer's zenith, which serves as a reference point for the angular measures to the sun or star, is determined by the levels on the astronomical instrument for, when the instrument is "leveled," it is in position to measure the zenith distance of a star. These levels, in turn, mark the direction of the force of gravity at that point, or the direction indicated by a plumb-line freely suspended. If, for any reason, the plumb-line is not perpendicular to the mean surface, then the position determined astronomically will not be in proper relation to adjacent points not so affected. It has long been known to geographers and geodesists that nearby mountain masses and differences in the density of the earth's crust would so materially affect the direction of the plumb-line that an astronomic latitude or longitude would show a discrepancy of a half-mile or more, in extreme cases, when compared to the mean values obtained by triangulation methods.

[fol. 616]

The discrepancies in geographical position of a point, due to the erroneous direction of gravity, are called deflections of the vertical. The magnitude of some of these deflections in the region adjacent to Colorado and New Mexico will be seen by a comparison with some of the latitudes and longitudes obtained by precise triangulation which has been reduced to the North American Datum. This North American Datum was adopted as a reference datum for all triangulation in the United States and was so chosen as to bring the continental area of the United States, as a whole, into its proper geographical relation in lititude and longitude. When astronomic latitudes and longitudes are compared to the latitudes and longitudes obtained by triangulation, they show at once the deflections in the vertical and the direction of such deflections.

Taking the region in the vicinity of Colorado Springs (See page 12, Figure of the Earth and Isostasy from Measurements in the United States), we find that a station in that city has a deflection in a north and south direction of $-3''.3$ while one on Pike's Peak has a deflection of $+0''.96$, a difference within a few miles of $4''.2$, which would correspond to a distance on the surface of the earth of about 425 feet. East of Colorado Springs, two stations 60 miles apart exhibit a latitude discrepancy equal to 240 feet while if we compare Pike's Peak with a station 30 miles east of it, we find a comparative discrepancy of 680 feet.

The entire western part of the United States has such extremes of elevation and so many variations in the density of the earth's crust that it is very usual to find a 2" or 3" variation, in the deflection of the vertical, corresponding to errors of 200 or 300 feet in distance

on the earth's surface, between points only a few miles apart, wh
such points are determined astronomically. The effects of these
flections are easily seen when we compare the latitudes and lon
tudes on the North American Datum of some of the state bounda
monuments in the western part of the United States with their s
posed astronomic positions.

A boundary monument on the northern boundary of the state
Kansas is nearly 880 feet north of the 40th parallel while a mon
ment on the southern boundary of the state is over 500 feet south
the 37th parallel, thus making the state a quarter of a mile wid
than was intended by its constitutional limits. A boundary mon
ment between Colorado and Wyoming is almost 600 feet too far sou
when referred to the North American Datum. A monument betwe
South Dakota and Nebraska is about 650 feet too far north and t
monument at the northeast corner of Wyoming is over 800 feet t
far south. Some of the boundary meridians located by astronom
methods show an even larger divergence from their true positio
than do the boundary monuments on parallels. A boundary mon
ment between Colorado and Utah is more than 2,200 feet too far we
[fol. 617] and others have been found as much as 3,300 feet fro
the location indicated as the true one by geodetic methods.

One additional effect of these deflections of the vertical is to
noted in the fact that a boundary line located by astronomic metho
will form a zigzag line. The direction of the line is changed at ea
astronomic station. This effect is shown on the western boundary
Montana which, at one point, is 1,900 feet east of where it should
on the North American Datum while 150 miles south, on the sam
boundary and supposedly on the same meridian, another bounda
monument is 3,300 feet east, a change of 1,400 feet in easting in 1
miles. The boundary line between Nevada and Utah exhibits a li
divergence from a proper direction for, in latitude 39° 10', a boun
ary monument supposed to be on the 37th meridian west of Was
ington is about 1,040 feet too far east, while in latitude 41° 20', a
other monument is 3,300 feet too far east.

It will thus be seen that the incongruities inherent in an astr
nomic determination of a boundary line are, to a certain extent, ou
side the power of the observer to correct. It will also be seen that
will be impossible to retrace an old line by such methods unless t
same astronomic stations are occupied on the rerunning as on t
original survey. This will explain, in large part, the reason wh
successive surveys of a boundary line do not agree.

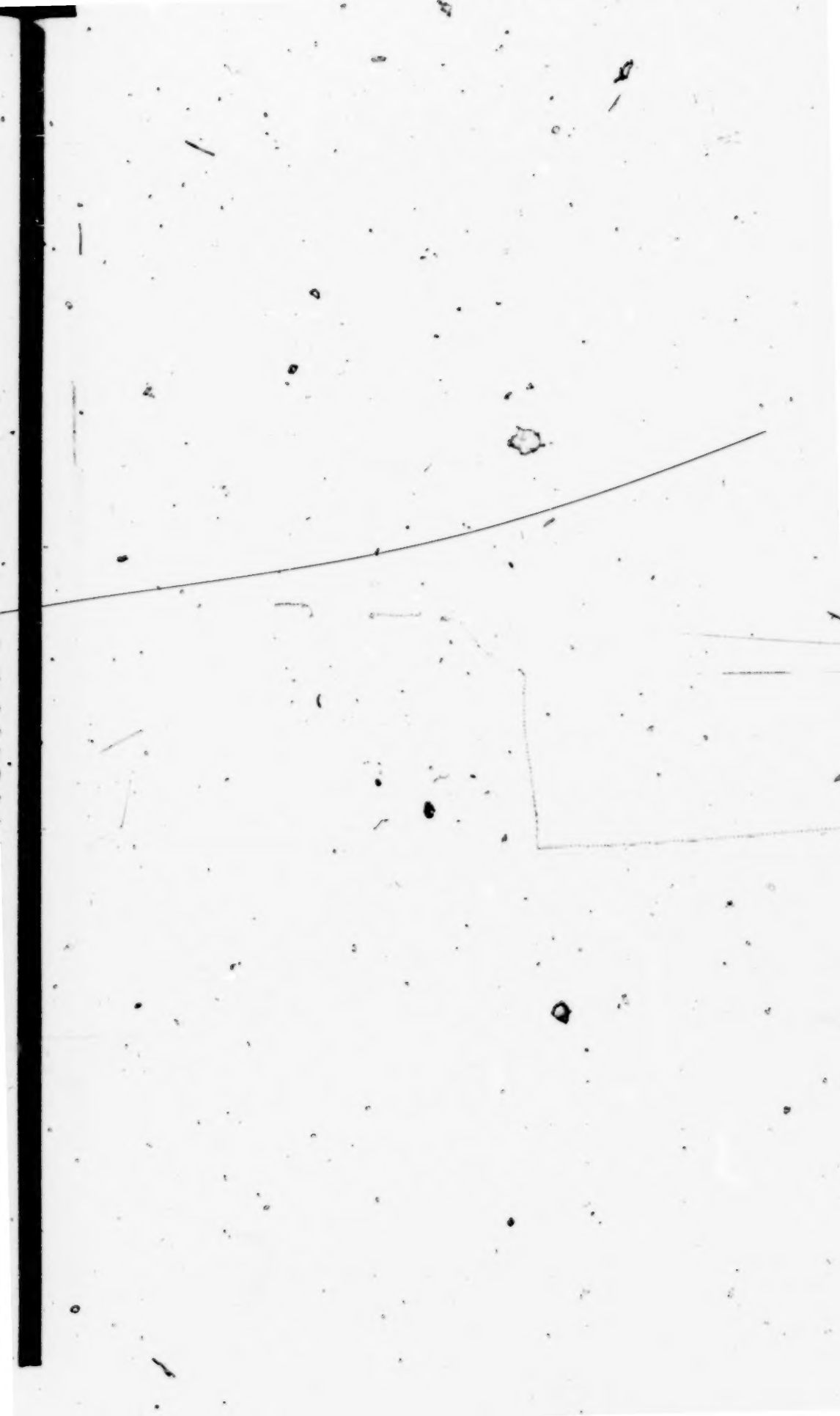
Respectfully yours, E. Lester Jones, Direct

[fol. 618] Memorandum

For explanation of North American Datum, pages 7-9, Special Pu
lication No. 74.

For some values for the deflection of the vertical in the meridi
(the direction affecting latitude observations) page 12 "Figure of t
Earth and Isostasy from Measurements in the United States."

[fol. 619] [File endorsement omitted.]



Fractional *Township N°* 32 North : *Range N°* 37 East of the New Mexico Principal *Meridian*

G F e b d D c C A h B a A

Sec. 6. Sec. 5. Sec. 4. Sec. 3. Sec. 2. Sec. 1

g H Y

Sec. 7. Sec. 8. Sec. 9 Sec. 10. Sec. 11 Sec. 12

h x

COLORADO

N

I

Sec. 18. Sec. 17. Sec. 16. Sec. 15. Sec. 14. Sec. 13. Sec. 18

W

Macomb Monument
Mile Cor. East of Macomb Mon
Mile Cor. East of Macomb Mon
Monument of Cheney & Smith
Established in 1881
Lat 37° N Lat 103° W Long
A Colorado and New Mexico bdy. line
N.E. Cor. of New Mexico Lat 37° N Long 103° W
Cor. to Secs. 7 & 18, T 6 N, R 1 E in Oklahoma
East
31.60
40.53
48.42
19.94
7.94
5
24.28
6
7
24.30
80
Sec. 19 Mesa
532.04
479.91
Sec. 21
Sec. 22
Sec. 23
Sec. 24
Sugar Loaf Butte
Cañon
66.51
N 0°1'E 66.51
N 89° 58' E
East
South
S
E
F
K
k
L
l
V
v

Refiled Nov 28 '04 Nov 5 '04

Meridian

RECEIVED WITH
SUR GEN'L LETTER.
MAY 7 1901

Meanders of

Points	Courses	Ch's Lks	Points	Courses	Ch's Lks	Points	Courses	Ch's Lks

Sec. 1

Sec. 12

Sec. 13

Sec. 24

[fol. 620] COLORADO'S EXHIBIT No. 22

"B." J. W.

Department of the Interior

General Land Office

Washington

October 22, 1923.

I hereby certify that the annexed copy of plat, is a true and literal exemplification from the original on file in this office.

In testimony whereof I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

Geo. R. Wickham, Assistant Commissioner of the General Land Office. (Seal United States General Land Office.)

(Here follows side folio page 621.)

[fol. 622] SUPREME COURT OF THE UNITED STATES

[Title omitted]

MOTION FOR LEAVE TO FILE REPLICATION AND ANSWER TO CROSS-BILL, CONSENT OF DEFENDANT, AND ALSO SAID REPLICATION AND ANSWER.—Filed April 1, 1924.

[fol. 623] Now comes the complainant by its special counsel, and moves the Court for leave to file its replication to the amended answer of defendant and its answer to the amended cross bill of defendant.

The State of New Mexico, by Frank W. Clancy, its Special Counsel.

It is hereby stipulated and agreed by the State of Colorado that the complainant may have leave to file herein its replication to the amended answer of defendant, and its answer to the amended cross-bill of defendant, and the defendant acknowledges receipt of a copy of foregoing motion of complainant for leave to file said replication and answer, and waives any other or further notice of said motion and consents that the same may be submitted and granted without further delay.

The State of Colorado, by Wayne C. Williams, its Attorney General. Charles Roach, Deputy Attorney General. Oliver Dean, Assistant Attorney General. Delph E. Carpenter, of Counsel for the State of Colorado.

[fol. 624] IN THE SUPREME COURT OF THE UNITED STATES

[Title omitted]

REPLICATION TO AMENDED ANSWER AND ANSWER TO AMENDED CROSS-BILL

The Replication of said Complainant to the Amended Answer of said Defendant

This repliant, saving and reserving to itself all and all manner of advantage of exception which may be had and taken, to the manifold errors, uncertainties and insufficiencies of the Amended Answer of the said defendant, for replication thereunto, saith that it doth and will aver, maintain and prove its said bill to be true, certain and sufficient in the law to be answered unto by said defendant, and that the Amended Answer of the said defendant is very uncertain, evasive and insufficient in the law to be replied unto by this replicant; without this, that any other matter or thing in the said Amended Answer contain material or effectual in the law, to be replied unto, and not herein and hereby well and sufficiently replied unto, confessed or avoided, traversed or denied, is true; all which matters and things this replicant is ready to aver, maintain and prove, as this honorable court shall direct, and humbly prays as in and by its said bill, it hath already prayed.

The State of New Mexico, by Frank W. Clancy, its Special Counsel.

[fol. 625] The Answer of the said Complainant, the State of New Mexico, to the Amended Cross-bill of the said Defendant The State of Colorado

The said complainant, the State of New Mexico, hereby waives the issuance and service of any process to require it to appear and answer the said cross-bill, and now and at all times hereafter reserving all manner of benefit and advantage of exception to the many errors and insufficiences in said amended cross-bill contained for answer thereunto, or unto so much or such parts thereof as this complainant is advised is material for it to make answer unto; answers and says that it denies that the true boundary line between plaintiff and defendant is described in defendant's amended answer and denies that such true boundary is fully or correctly shown or delineated in the field notes or survey made in 1868 by Eliud N. Darling, or in the field notes or survey of John J. Major, or in the field notes or survey of Levi S. Preston, but it admits that Howard B. Carpenter in making his survey destroyed and obliterated some of the monuments and corners established by said Darling in making his said survey as he, the said Carpenter, was instructed and ordered to do by the acting Commissioner of the General Land Office in the special instructions by said acting Commissioner given to said Carpenter under date of

July 7, 1902, without this that any other matter or thing in said amended cross-bill contained or charged material for it to make answer to, and not herein sufficiently answered, avoided or denied, is true to the knowledge or belief of this complainant.

All which matters and things this complainant is ready to aver and prove as this Court shall direct and prays that said amended cross-bill be dismissed.

The State of New Mexico, by Frank W. Clancy, its Special Counsel.

[64 626] SUPREME COURT OF THE UNITED STATES.

[Title omitted]

MINUTE ENTRY OF ORDER GRANTING LEAVE TO FILE AMENDED ANSWER AND CROSS-BILL—April 8, 1924.

On motion of Mr. Clyde C. Dawson, in behalf of Mr. Wayne C. Williams, Mr. Charles Roach, Mr. Oliver Dean, and Mr. Delph E. Carpenter for the defendant, leave was granted to file an amended answer and cross-bill herein.

[64 627] SUPREME COURT OF THE UNITED STATES.

[Title omitted]

JOINT MOTION TO PUBLISH TESTIMONY AND SET CASE FOR HEARING—Filed April 15, 1924.

Now come the said parties by their respective counsel, and jointly move the court for leave to open, file and publish the testimony in said cause, which has been certified by the examiners designated in writing by agreement of said parties, pursuant to the order of the Court made herein on January 30, 1922, and has been by said examiners sent to the Clerk of this Court; and also to set the case for hearing at the earliest practicable day in the next term of the Court, to be begun on the first Monday in October, 1924.

The State of New Mexico, by Frank W. Clancy, Its Special Counsel. The State of Colorado, by Wayne C. Williams, Its Attorney General. Charles Roach, Deputy Attorney General. Oliver Dean, Assistant Attorney General. Delph E. Carpenter, of counsel for the State of Colorado.

[64 628] [File endorsement omitted.]

[fol. 629] SUPREME COURT OF THE UNITED STATES

[Title omitted]

MINUTE ENTRY OF ORDER GRANTING LEAVE TO FILE REPLICATION AND ANSWER TO CROSS-BILL AND REPLICATION TO ANSWER—April 16, 1924

On motion of Mr. A. A. Jones in that behalf leave was granted to file replication and answer to the cross-bill.

[fol. 630] SUPREME COURT OF THE UNITED STATES

[Title omitted]

MINUTE ENTRY OF SUBMISSION OF MOTION TO OPEN, FILE AND PUBLISH TESTIMONY, ETC.—May 12, 1924

The motion to open, file and publish the testimony in this cause and to set the cause for hearing, was submitted to the consideration of the Court by Mr. A. A. Jones in behalf of counsel.

[fol. 631] SUPREME COURT OF THE UNITED STATES

[Title omitted]

MINUTE ENTRY OF ORDER GRANTING MOTION TO OPEN TESTIMONY, ETC., AND SETTING CAUSE FOR HEARING—May 26, 1924

On consideration of the motion for leave to open the testimony and to set this cause for hearing,

It is now here ordered by this Court that the said motion be, and the same is hereby, granted; and the cause assigned for argument on Monday, November 10th, next, after the cases heretofore assigned for that day.

[fol. 632] IN THE SUPREME COURT OF THE UNITED STATES

[Title omitted]

TESTIMONY TAKEN AT WASHINGTON, D. C., BEFORE DOUGLAS O. MORGAN, EXAMINER, JULY 3, 5, AND 6, 1922—Received Sept. 11, 1924

(20 exhibits accompanying.)

[fol. 633] July 3, 1922—2 o'clock p. m.

Appearances: Frank W. Clancy, Esq., for the State of New Mexico; Hon. Victor E. Keyes, Attorney General, and William R. Ramsey, Esq., Assistant Attorney General for the State of Colorado.

The parties to the above-entitled cause, by their respective counsel above named, appeared at the Continental Building, Washington, D. C., on this date, in pursuance of a stipulation entered into between counsel, at the instance of the defendant, and neither party having any testimony to present this afternoon, the hearing was adjourned [fol. 633] until Wednesday, July 5, 1922, at 2 o'clock p. m.

[fol. 634] [Title omitted]

Testimony Taken at Washington, D. C., Before Douglas O. Morgan, Examiner

Department of the Interior,
Washington, D. C., July 5, 1922—2 o'clock p. m.

Appearances: Frank W. Clancy, Esq., for the State of New Mexico; Hon. Victor E. Keyes, Attorney General, and William R. Ramsey, Esq., Assistant Attorney General, for the State of Colorado.

The Examiner: Gentlemen, we will first spread upon the record the order of the Supreme Court of the United States, heretofore passed in this case, dated January 30, 1922, authorizing the taking of testimony in this case, and the stipulation of the parties, made in pursuance of that order, and approved by the Court on May 15, [fol. 635] 1922, designating me as examiner to take the testimony in the case presented at Washington, D. C., together with my oath to faithfully perform my duties as such examiner, taken as required by said order.

The orders and oath referred to are as follows:

[fols. 636 & 637] Order granting motion for leave to file stipulation as to taking testimony omitted, printed side page 573 ante.

[fol. 638] In the Supreme Court of the United States

[Title omitted]

Stipulation Designating Examiners to Take Proofs

In pursuance of the order of the Court, made on January 30, 1922, the parties to the above-entitled cause hereby agree, subject to the approval of the Court as provided in said order, to designate, and hereby do designate, the following-named persons as examiners to take the proofs in said cause, as provided in the said order of the Court, at the several places mentioned in connection with said names: Henry C. Luther, of Denver, Colorado; Douglas O. Morgan,

of Washington, D. C. Ethel F. Stevenson, of Santa Fe, New Mexico.

Frank W. Clancy, Counsel for Complainant. Victor E. Keyes, Attorney General of Colorado, for Defendant.

(Approved by the Court and permission to file given May 15, 1922.)

[fol. 639] Oath of Douglas O. Morgan omitted; printed side page 585 ante.

[fol. 640] The Examiner: There will also be spread upon the record the stipulation between the parties pursuant to which these meetings are held.

Said stipulation is as follows:

IN THE SUPREME COURT OF THE UNITED STATES

[Title omitted]

STIPULATION RE TAKING TESTIMONY

It is hereby stipulated by the parties to the above-entitled cause, by their respective attorneys and counsel, that in the City of Washington, D. C., on July 3d, A. D. 1922, such testimony may be taken as may be offered by the parties hereto or either of them, and continued from day to day or from time to time, until completed.

Dated and signed this 12th day of June, A. D. 1922.

Frank W. Clancy, Counsel for Complainant. Victor E. Keyes, Attorney General of Colorado; W. R. Ramsey, Assistant Attorney General, Counsel for Defendant.

[fol. 641] The Examiner: The following stipulation has also been filed with me, which it is understood the parties have agreed to:

"It is stipulated by counsel for the respective parties in this case that any and all official plats, maps, surveys, resurveys, official letters, documents, instructions, or other Government records pertaining to the issues herein, may be received in evidence and considered as part thereof, without any further or other authentication than may be apparent on the face thereof, by the identification thereof, or by the introduction of duly certified copies of the same."

Is that stipulation agreed to by both parties?

Mr. Keyes: Yes.

Mr. Clancy: Yes.

The Examiner: It is not signed.

Mr. Keyes: It can go in the record as a stipulation agreed to orally by counsel.

Mr. Clancy: Before we begin the taking of any testimony, I want to state this on the record, to explain the apparent incongruity of beginning with evidence on behalf of the defendant:

As far as I am at present advised, all testimony for the complainant can be taken at Denver or Santa Fe, and will be there taken, which will be more convenient and less expensive for both sides.

I appear here at this time in pursuance of a stipulation made at the request of defendant's counsel, and not with the intention of [fol. 642] presenting any evidence on behalf of the complainant; and I am ready to proceed with the testimony presented on behalf of the defendant, in order to accommodate defendant's representatives.

The Examiner: In view of that statement, are counsel on behalf of the defendant ready to proceed?

Mr. Keyes: According to stipulation heretofore entered into, examiners were appointed in Washington, Denver and Santa Fe. I understood that it was the expectation of both parties to take testimony in each of the respective places.

It was the desire of Colorado to have the testimony taken at as early a date as possible, and some time in June was suggested by counsel for Colorado for the taking of testimony in Washington. But to meet convenience of counsel for New Mexico, we agreed to a later date, namely, the 3d of July, 1922, at which date it was stipulated that such testimony should be taken as may be offered by the parties hereto, or either of them.

If no testimony is now offered by New Mexico it is the desire of Colorado to proceed at this time with the taking of certain testimony in support of the answer and cross-bill.

Mr. Clancy: After that statement by the Attorney General of Colorado, which on its face would seem to put me in the position of failing to present testimony for the complainant, I desire to say that when it was suggested to me that we should take testimony here in June, I protested that I had no testimony to take at this time in Washington, but that I was perfectly willing to agree to the [fol. 643] taking of testimony if that would suit the convenience of counsel for Colorado.

Mr. Keyes: In accordance with stipulation heretofore entered into, I now offer and introduce in evidence certain portions of an Act of Congress approved March 2, 1867, entitled, "An Act making appropriations for sundry civil expenses of the Government for the year ending June 30, 1868, and for other purposes, found in 14 Statutes-at-Large. The following from page 457:

EXHIBIT IN EVIDENCE

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated for the ob-

jects hereafter expressed for the fiscal year ending the 30th of June, 1868, namely:"

And the following from page 466:

"For the survey of the thirty-seventh parallel of north latitude, so far as it constitutes the northern boundary of the Territory of New Mexico, estimated, 327 miles at not exceeding sixty dollars per mile, nineteen thousand dollars."

[fol. 644] WALTER T. PAINE, a witness called by and on behalf of the State of Colorado, having been first duly sworn according to law, was examined and testified as follows:

Direct examination.

By Mr. Keyes:

Q. What is your name?
A. Walter T. Paine.
Q. What official position do you hold?
A. Assistant chief of surveying division of the General Land Office.
Q. How long have you held that position?
A. About twenty-five years.
Q. Were you with the same Department prior to that time?
A. Yes, I have been in the General Land Office 31 years and a half, of which I have spent 28 years and a half in the surveying division.
Q. Are you familiar with the maps, surveys and other documents of the General Land Office of the United States?
A. I am familiar with a very great number of those records. My duties make it necessary that I should be familiar with either the records or the places where they may be found.
Q. Are you familiar with the maps, surveys, contracts, instructions and other documents on file in the United States General Land Office pertaining to the boundary between Colorado and New Mexico?
A. Generally so, yes.
[fol. 645] Q. Have you any objection to my marking this document (indicating) "Colorado Exhibit No. 1"?
A. Yes, but that could be done on a certified copy.

Mr. Clancy: Any copy you will present and give to Mr. Morgan the examiner I will not object to, whether it is certified or not.

By Mr. Keyes:

Q. Then I will say "this document which I will designate as Colorado Exhibit No. 1", I will ask you to state what that is? (Handing paper to witness.)

Mr. Clancy: Does it not show for itself what it is? We need not take any testimony to show that. I am not going to object to it in any way.

A. My examination of the paper in question has led me to conclude that it was the original contract and bond dated May 22, 1868 between the Commissioner of the General Land Office, Joseph S. Wilson, and Ehud N. Darling, astronomer and surveyor for the survey of the Northern Boundary of New Mexico.

Mr. Keyes: I now offer and introduce in evidence this contract and bond. It is understood that a copy of this, or any other official documents hereafter introduced, may be substituted for the original, and that the examiner will mark such copies as exhibits, instead of the original.

Mr. Clancy: Yes.

(The copy of the contract and bond last above referred to were received in evidence and marked "Colorado Exhibit No. 1".)

By Mr. Keyes:

Q. I now hand you a book bound in buckram, entitled, "Letters [fol. 646] to Surveyor General of New Mexico, August 14, 1851, to May 15, 1869", and ask if that is part of the original records of the General Land Office (handing book to witness).

Mr. Clancy: I admit anything you want about that.

A. (Examining book.) I want to satisfy those who are present that what I indicate as of my own personal knowledge, has been gained by my necessary contact with these records during the time that I have been engaged on my present duties, and that whatever I may say is my own conclusion personally on that fact.

In answer, therefore, to the question presented, I will answer, Yes.

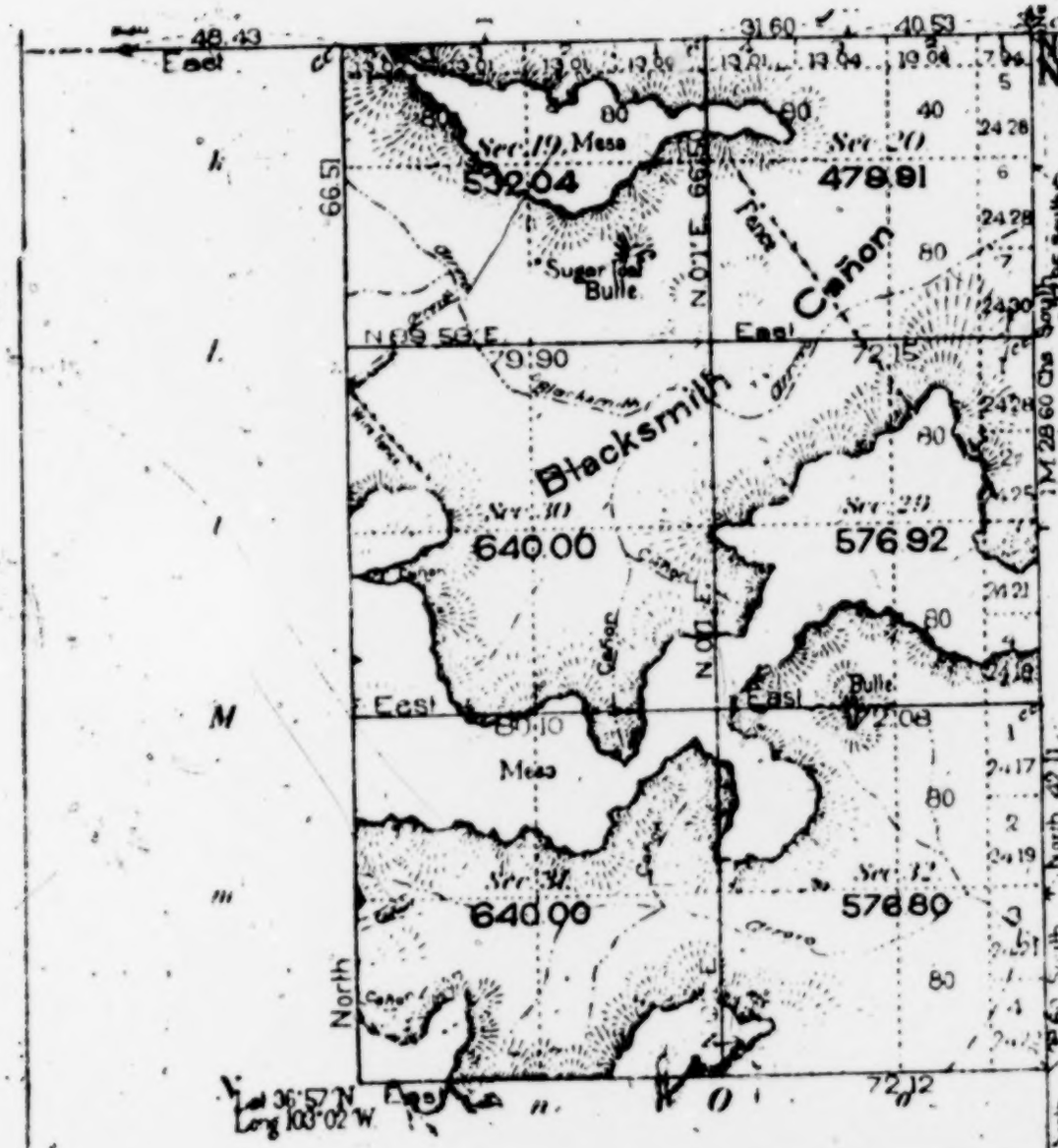
By Mr. Clancy:

Q. As I understand from what Mr. Keyes said, these are recorded copies of letters that have been sent to the Surveyor-General?

A. Yes, sir.

Mr. Clancy: We will be perfectly willing to agree that they are copies of genuine letters that were sent, if that will facilitate it in any way. If I did not believe they were, I could not show the fact that they were not, and I would not try.

Mr. Keyes: I now offer and introduce in evidence a copy of a letter found on page 489 of said book, from Joseph S. Wilson, Commissioner of the General Land Office, to Ehud N. Darling, dated May 22, 1868, transmitting to Mr. Darling said contract and bond. When a copy of this letter, in accordance with our stipulation, has been given to the examiner, I ask that it be marked "Colorado Exhibit No. 2".



Total number of Acres 3445.67

Surveys Designated	By Whom Surveyed	Date of Contract No 336	Amount of Surveys M. Ch. Li.	When Surveyed	Mean Mag. Var
Township lines	Levi S Preston	Oct 25, 1899	2 66 51	June 29, 1900	12°21 E
Subdivisions	" "	" "	6 50 73	June 30, "	12°20 E
Col. N M Bdy (E & W Mer.)	" "	" "	2 40 53	June 29, "	12°21 E
Connections	" "	" "	3 42 80	June 2 - 30	12°21 E
Cimarron Meridian	Chaney & Smith	Aug 26, 1881		Oct 19 - Nov 6, 1881	

Postal Rec'd 12 1902. C.L.D.

The above Map of Township No. 32 North of Range No. 37 East of the Principal Meridian in New Mexico is strictly conformable to the field notes of the survey thereof on file in this Office which have been examined and approved

Surveyor Generals Office
Santa Fe, N.M. May 7, 1902

Surv. Gen'l

(The letter referred to was received in evidence, and a copy thereof [fol. 647] was marked "Colorado Exhibit No. 2").

Mr. Keyes: I also offer in evidence copy of letter dated May 26, 1868, written to Ehud N. Darling, by Joseph S. Wilson, with instructions as to the making of said survey, said letter being found beginning at page 199, and ending at the bottom of page 501 of said book, and ask that when a copy of same has been submitted to the examiner in accordance with our stipulation, it be marked "Colorado Exhibit No. 3".

(The letter referred to was received in evidence, and a copy thereof was marked "Colorado Exhibit No. 3".)

By Mr. Keyes:

Q. Mr. Paine, will you state whether, from the records of the Land Office, the instructions given to Mr. Darling for the making of that survey were carried out?

A. They were.

Q. I hand you a book purporting to be the field notes of the survey of Ehud N. Darling, and ask you whether or not that is the original? (Handing book to witness).

A. (Examining book.) I recognize it as such, containing on the fly leaf "Original for General Land Office, Received with E. N. Darling's letter of April 14, 1869", and on the same page it is indicated that a copy was sent to the Surveyor General for Colorado and the Surveyor General for New Mexico May 6, 1869, subsequent to April 30, 1869, when these field notes were approved by Joseph S. Wilson, Commissioner of the General Land Office.

Q. I want you to read that approval.

Mr. Clancey: I understand that these field notes and the approval of the survey are set out in print in the answer of the defendant, and as far as I am concerned, as I have heretofore suggested to [fol. 648] counsel for Colorado, I am willing to accept that printed copy of the notes as sufficient, without incumbering the record with a second copy. Of course, if we do discover anything out of the way with that printed copy, we will correct it any time, if you want to; but I do not think we ought to burden the record with those field notes twice over. Of course, when the record is finally made up and printed, those things that are in the pleadings will all be printed.

Mr. Keyes: We offer in evidence, then, the field notes of survey of Ehud N. Darling, which I designate as "Colorado Exhibit No. 4". It is understood that it will not be necessary to incumber the record by a copy of said field notes and survey in the report of this proceeding, but that said field notes and survey of Ehud N. Darling, together with the approval thereof by the Commissioner of the General Land Office, as set forth in the answer and cross bill, shall be considered as part of the evidence in the case.

Mr. Clancey: Yes.

Mr. Keyes: In accordance with stipulation, I now introduce in evidence Colorado Exhibit No. 5, consisting of five sheets, numbered 1 to 5 respectively. Said exhibit being the maps of the boundary line between Colorado and New Mexico, on the 37th parallel North latitude, 103 degrees to 109 degrees of longitude West from Greenwich, established and surveyed under direction of Hon. Joseph S. Wilson, Commissioner of the General Land Office, Department of the Interior, by E. N. Darling, United States Surveyor and Astronomer in 1868.

[fol. 649] (The maps last referred to were received in evidence, and marked "Colorado Exhibit No. 5").

Mr. Keyes: In accordance with our stipulation, I now offer and introduce in evidence Colorado Exhibits Nos. 6 to 16, inclusive, the same being township plats and subdivisional surveys closed upon the Darling line.

(The 11 township plats and subdivisional surveys last above referred to were received in evidence and marked, respectivly, from "Colorado Exhibit No. 6" to "Colorado Exhibit No. 16", inclusive.)

By Mr. Keyes:

Q. Mr. Paine, have all the public surveys in Colorado and New Mexico been closed upon the Darling line?

A. To the best of my knowledge and belief, they have.

Q. What was recognized by the Land Office as the southern boundary of Colorado in 1876, when it was admitted into the Union?

A. The Darling line.

Q. What line was recognized by the Land Office as the northern boundary line of New Mexico on January 6, 1912, when New Mexico was admitted into the Union?

A. The same line.

Q. What survey and line is recognized to-day by the Land Office as the boundary line between New Mexico and Colorado?

A. The Darling line.

Q. Have all the lands surveyed and patented in the region of the 37th parallel, between the 103d and the 109th meridians, been closed on the Darling line?

A. That is my impression and belief.

[fol. 650] Q. Mr. Paine, what line and survey were recognized as the boundary between Colorado and New Mexico prior to the time that either State was admitted into the Union?

A. The Darling line.

By Mr. Claney:

Q. In that connection, Mr. Paine, I will ask you a question: Why, then, was the survey which is known as the Carpenter survey ever made under the direction of the Department?

A. As I recognize it, in obedience to the statute providing an appropriation for the resurvey and reestablishment of the 37th parallel

of latitude, where it formed the boundary between the State of Colorado and the Territories of New Mexico and Oklahoma.

Q. Was not that appropriation made in pursuance of recommendations and estimates from the Department?

A. It was.

Q. That was about 1902, was it not?

A. Yes, sir. July 1, 1902, was the date of the appropriation, as I remember it.

By Mr. Keyes:

Q. I hand you, Mr. Paine, what I designate as Colorado Exhibit No. 17, and ask you to state what that is. (Handing paper to witness).

A. (Examining paper.) I recognize this paper as the original letter from the Surveyor General of New Mexico to the Commissioner of the General Land Office, dated February 7, 1918, transmitting therewith filed notes of the resurvey of a portion of the Colorado-New Mexico boundary (Darling survey) from the 216-Mile Corner [fol. 651] to Astronomical Monument No. 8, surveyed under Group No. 79, New Mexico, and identified thus on the records of the surveying division.

By Mr. Carey:

Q. By whom was that survey made?

A. The letter itself does not indicate. I happen to know who made it. Our records show who made the survey.

Q. If you know who made it, state who made it.

A. William C. Perkins.

Mr. Keyes: I now offer and introduce in evidence Colorado Exhibit No. 17, and ask that when a copy thereof is submitted in accordance with our stipulation, the examiner mark the same "Colorado Exhibit No. 17."

(The paper referred to, being original letter dated February 7, 1918, was received in evidence, and a copy thereof was marked "Colorado Exhibit No. 17.")

By Mr. Keyes:

Q. Mr. Paine, I hand you what I have designated Colorado Exhibit No. 18, and ask you to state what that is? (Handing paper to witness.)

A. (Examining paper.) It is an authenticated copy of letter dated July 6, 1918, addressed to the Surveyor General of New Mexico by the Commissioner of the General Land Office, accepting the resurvey of the portion of the Colorado-New Mexico boundary line transmitted with the Surveyor General's letter of February 7, 1918. Further, it was submitted to the Department of the Interior and approved by the First Assistant Secretary July 6, 1918.

Mr. Keyes: I now offer and introduce in evidence what I have [fol. 652] designated as Colorado Exhibit No. 18, and ask that when

a copy thereof is delivered to the examiner, he shall mark the same "Colorado Exhibit No. 18."

(The letter last referred to was received in evidence, and a copy thereof marked "Colorado Exhibit No. 18.")

Mr. Keyes: I understand that Mr. Paine is going to be in Denver, and there might be something that either one of us will want to ask him about in Denver.

The Witness: Yes, I will be there on 17 July 17, surely.

Mr. Clancy: When we get through here, I want it understood that we will take testimony in Denver on the 17th of July.

The Witness: I will not be there then, but I will be there until Saturday the 15th. And if there is any subsequent information that I am able to give offhand out there, of course I will be perfectly willing to meet you.

Mr. Keyes: That is all.

(Thereupon, at 4 o'clock p. m., an adjournment was taken until Thursday, July 6, 1922, at 10:30 o'clock a. m.)

[fol. 653] IN THE SUPREME COURT OF THE UNITED STATES, OCTOBER TERM, 1922

No. 17, Original

THE STATE OF NEW MEXICO, Complainant,

vs.

THE STATE OF COLORADO

Testimony Taken at Washington, D. C., Before Douglas O. Morgan, Examiner

Department of the Interior,
July 6, 1922—10:30 o'clock a. m.

Appearances: Frank W. Clancy, Esq., for the State of New Mexico; Hon. Victor E. Keyes, Attorney General, and William R. Ramsey, Esq., Assistant Attorney General, for the State of Colorado.

WALTER T. PAINE, a witness heretofore called by the State of Colorado and duly sworn, was recalled for further examination and testified as follows:

Cross-Examination.

By Mr. Clancy:

Q. Mr. Paine, yesterday you identified certain plats offered in evidence by the defendant in this case, as showing subdivisional sur-

veys made by W. C. Perkins which closed on the Darling line. As I recollect, each of those plats showed that it was a resurvey, from which I infer that there had been a previous survey of those townships. Is that correct?

A. I have not the evidence before me upon which to answer your question, Mr. Clancy. My connection with the case was only in a very general way, not a particular way. I was testifying at that time concerning the impression which the map made upon me as I [fol. 654] viewed it. I would be very glad to look at the map again and give you my impressions, and perhaps answer better your question.

Q. Can you state whether those surveys of townships covered the whole of the dividing line between Colorado and New Mexico?

A. No, sir, I cannot without reference to the plats themselves. I was testifying concerning the impression which those plats made visually. I have not had sufficient contact with the returns of survey to be certain that I could testify without the use of the plats as to what impression they made on my mind.

Q. It seems that we have not them here at this time. And I wanted to inquire of you because, as I recollect, each one was marked a resurvey.

A. Yes.

Q. If you can, tell us why those townships were resurveys?

A. No; my recollection does not carry me through the various details connected with the production of that map. I am very sorry that that is so, but that is the fact.

Q. Can you readily lay your hands upon the instructions under which Mr. Perkins made those resurveys?

A. Yes, sir; they are part of the records upstairs in our division, group 79. I remember it. I can go right to the files and get them.

Q. That answers the question I was going to ask you—if you can get them. I do not like to give you any more trouble.

A. It is no trouble. Possibly I can get you the plats from our [fol 655] records, of which you had a copy yesterday, and that will, perhaps, permit me to answer more specifically your question.

(A recess of 15 minutes was taken to permit witness to procure papers from the official records.)

After Recess.

By Mr. Clancy:

Q. Mr. Paine, is it or is it not the fact that the resurveys of the townships closing on the Darling line, plats of which were offered in evidence yesterday by the defendant, were made because there had been previous surveys of the same townships, closing on the Carpenter line?

A. Only so in one instance.

Q. Only in one township?

A. 32 North, 4 West, New Mexico Principal Meridian.

Q. Well, can you tell us why the other resurveys were made?

A Because of the fact, according to the best of my recollection, that there were evidences presented to the office as a basis for the resurvey of certain townships in the southeastern corner of Colorado, indicating that the original evidences of those surveys had disappeared.

Q On the grounds?

A On the grounds, the evidences of those surveys had disappeared, and the lands were being entered by parties who called attention to the fact that there were without those evidences upon which to base their locations; and as a result of that condition, under the authority of the Act of March 3, 1909, authorizing the Secretary of the Interior to cause such resurveys to be made as he might judge proper, [fol. 656] we proceeded to let a contract for the resurvey of those townships. I am speaking now entirely from recollection. But they closed on the Major south boundary of Colorado. Major ran a line from the southeast corner of Colorado to the McComb monument, which marked the beginning point of Darling's survey westward therefrom. This is all from recollection. I am not referring to the records.

Q I think you are correct about that; my recollection agrees with that.

This document which you have just handed me (indicating) contains the special instructions for the survey, or for the resurvey, of Township 32 North, in Range 1 East, and in Range 1, 2, 3 and 4 West. It does not cover all of the resurveys of which the plats were put in evidence yesterday. Is that correct?

A It does not. The paper which you have relates to the surveys that were executed under what we all call Group 79.

Mr. Clancy: I do not think there is anything further to be developed.

Redirect examination.

By Mr. Keyes:

Q Mr. Paine, is it true, then, that all township maps and plats are now closed on the Darling line and survey?

A All subsisting lines.

Q How long have they been so closed?

A According to the best information I have, they were always closed there, excepting in one instance.

Q And in that instance, is it true that there was a resurvey, and that is now closed on the Darling line?

[fol. 657] The Witness: May I refer to these records in order to answer that? (indicating).

Mr. Clancy: Certainly.

The Witness: I would like to see that original plat (examining plat). May I answer that question according to my own view of the situation?

Mr. Keyes: Yes.
Mr. Clancy: Yes.

A. In 1907, June 20, a contract numbered 108 was awarded to Alonzo E. Compton, deputy surveyor, to survey unsurveyed Township 32 North, Range 4 West, New Mexico. His instructions required him to close upon the Carpenter survey, where it formed the north boundary of that township. The result of that survey under those instructions is depicted upon a plat denominated Fractional Township 32 North, Range 4 West of the New Mexico Principal Meridian, in New Mexico, approved by the Surveyor General April 22, 1909. My personal view is that the office at that time was confronted with the fact that the Carpenter survey was an accepted survey, executed in compliance with an Act of Congress, and there was, by implication, in the mind of the office the notion that the Carpenter survey was the true south boundary of Colorado, and as such it formed the limit of the survey of the public lands in Township 32 North, Range 4 West, New Mexico Principal Meridian. It was not until 1917 that the office took up the question of the correctness of that view, with reference to what formed the true boundary line between Colorado and New Mexico. In my judgment, the office, having the knowledge that President Roosevelt had vetoed the Joint [fol. 658] Resolution declaring the Carpenter survey as the true boundary of Colorado, the office was contracted with the fact that the Carpenter survey had never been approved.

By Mr. Clancy:

Q. Except by the office here?

A. By any one else than the General Land Office as the boundary line. I say, in view of the fact that that had never been approved by competent authority as defining the true boundary line, instructions were issued in 1917, to William C. Perkins, to restore the Darling line where it formed the north boundary of Township 32 North, Range 4 West, New Mexico Principal Meridian, New Mexico; and I have before me a plat which shows the resurveyed and restored Darling boundary; and that plat also shows that Frederic C. Miller, in 1918, retraced the lines that closed upon the Carpenter survey, and cut off from that north tier of sections numbered 7, 8, 9, 10, 11 and 12 the portion which overran the Darling line, and which closed on the Carpenter line. The result of such survey is found on a supplemental plat, showing sections 7, 8, 9, 10, 11 and 12, approved by the Surveyor General of New Mexico February 20, 1919.

There is also a plat (indicating) showing the resurvey of the south tier of sections of Fractional Township 32 North, Range 4 West of the New Mexico Principal Meridian, in Colorado, approved by the Surveyor General of Colorado, October 30, 1920, which depicts certain tracts of land which had been surveyed as a part of New Mexico by Compton in 1908, and which had been entered according to the plat of the Compton survey. I say it shows certain tracts extending [fol. 659] north, up to the Carpenter line, conflicting with surveys in sections 22, 23 and 24 of the Colorado surveys, which themselves had

previously closed on the Darling line. We find certain tracts numbered 25, 26, 27 and 28, showing on the sides as a legend what sections were originally surveyed as in Colorado, and disposed of as in Colorado, with which there were conflicts by these tracts. There is also a legend showing the areas in conflict. And there are other conclusions, probably, which might be drawn from a study of this plat and what it purports to represent.

Mr. Clancy: Mr. Ramsey, was this plat (indicating plat last referred to by witness) one of those that you put in evidence yesterday or not? Because if not, I want it in.

Mr. Ramsey (examining plat): Yes, that was put in evidence yesterday—Fractional Township 32 North, Range 4 West of the New Mexico Principal Meridian. I think this was put in evidence.

The Witness: You are talking about in Colorado now.

By Mr. Clancy:

Q. If this is already in evidence, of course we do not want to duplicate it; but if it is not, I want a copy of it. Is this in the record? (Indicating plat last above referred to. Exhibit 16, Colorado.)

A. Yes.

By Mr. Keyes:

Q. Is it true, then, Mr. Paine, that, with the exception of the ex- townships of which you have spoken, all township maps and plats have all been closed on the Darling survey?

A. To the best of my knowledge.

Q. Both in New Mexico and Colorado?

[fol. 660] A. To the best of my knowledge and belief, that is true.

Q. When was the Darling survey approved by the Commissioner of the General Land Office.

Mr. Clancy: You put that in evidence yesterday.

Mr. Keyes: I know, but——

A. You are trying to test my memory, I am afraid, and I cannot trust it.

By Mr. Keyes:

Q. The records show that?

A. Yes.

Q. Since the approval of the Darling line and survey in 1869, has that survey always been recognized by the General Land Office as the boundary line between New Mexico and Colorado?

A. With the exception of the time when we recognized the Carpenter survey as the true north boundary of Township 32 North, Range 4 West, New Mexico Principal Meridian.

By Mr. Clancy:

Q. As you have already testified?

A. Yes.

By Mr. Keyes:

Q. And that was a survey of one township only?
A. One township only.
Q. And in the survey of all other townships on or near the boundary the Darling line has been recognized as the true boundary since 1869?
A. Yes, sir.
Q. And what line is recognized by the General Land Office as the boundary line between the two States at the present time?
[fol. 661] A. That is a question of opinion which I should prefer to have the United States Supreme Court decide.
Q. Is it or is it not true that, for administrative purposes, the Darling line is recognized by the Land Office as the boundary between Colorado and New Mexico?
A. Yes.
Q. And is it the only line recognized by the General Land Office as the boundary line, for administrative purposes?
A. Yes.

Mr. Keyes: That is all.
The Examiner: Any further questions, Mr. Clancy?
Mr. Clancy: I do not think I want to ask any more.

(Witness excused.)
(A recess was taken until 2.30 o'clock p. m.)

I have read over the foregoing transcript of my testimony, and the same is correct.

Walter T. Paine, Witness

Afternoon Session

Columbian Building,
Washington, D. C., July 6, 1922—2.30 o'clock p. m.

The Examiner: Are you gentlemen ready to proceed?
Mr. Ramsey: Yes.

SIMON E. SULLIVAN, a witness called by and on behalf of the State of Colorado, having been first duly sworn according to law, was examined and testified as follows:

Direct examination.

By Mr. Ramsey:

Q. State your name?
A. Simon E. Sullivan.
[fol. 662] Q. What is your age?
A. 57.

Q. Where do you reside?

A. At Friendship Heights, Maryland.

Q. What is your business or occupation?

A. I am in the Government service.

Q. How long have you been employed in the Government service, and in what position?

A. Since 1893, in the Post Office Department, in various positions during that period.

Q. What official position do you hold at this time in the Post Office Department?

A. Assistant Superintendent, Division of Postmasters' Appointments.

Q. And what are your official duties as such assistant superintendent?

A. To supervise the establishment of all fourth-class post offices and the appointments, removals, changes of site, etc., in connection with four-class post offices.

Q. As such official, state whether you have supervision, control and direction of the official records of the United States Post Office Department, showing the establishment of post offices throughout the United States?

A. I have.

Q. I show you a large book, and ask you to please state what it is? (Handing book to witness.)

A. (Examining book.) This is a record of all post offices in the States of Colorado and Nevada, established or in operation from 1891 to 1901.

[fol. 663] Q. Does this book show the post offices established by the Post Office Department in the State of Colorado?

A. It does.

Q. Please examine said book, and state from same when and where the post office known as Edith was established?

A. (Examining.) The record at which I am pointing in this book shows that the post office at Edith was established on October 28, 1895, on which date Edgar M. Biggs was appointed postmaster.

Q. And where was it established?

A. In Archuleta County, Colorado.

Q. Please examine the same record book; and state when and where the post office known as La Boca was established.

A. That information is contained in another book.

Q. Please examine the same record book, and state when and where the post office known as Arboles was established.

A. This record book shows that the post office at Arboles was in existence in Archuleta County, Colorado, during the period before mentioned; it does not, however, show the date of establishment of Arboles.

Q. In what State was Arboles established?

A. I do not know where it was established. I could not tell you that. This is not the establishment of Arboles.

Q. Well, in what State is the post office of Arboles now, according to the record?

A. Well, I cannot answer that directly either; I have not the present record. But I can say this: during the period mentioned Arboles was in Archuleta County, Colorado; that is, from 1891 to 1901.

[fol. 664] Q. Now, will you please examine the record as to the post office known as Ortiz?

A. The post office known as Ortiz, I have that here (indicating); in the record book covering the States of Colorado, Montana and Nevada from 1900 to 1908, appears the name of the post office of Ortiz, in Conejos County, Colorado.

Q. Can you state when that office was established and where?

A. No.

Q. Will you please state, from the same record, when and where the post office known as Osier was established?

A. The post office at Osier, I cannot say positively when it was established; but in the record book covering the States of Colorado, Montana and Nevada from 1900 to 1908, appears the name of the post office of Osier, in Conejos County, Colorado.

Q. Please examine and state when and where the post office named as Wooton was established?

A. In the same record book as Ortiz and Osier appears the post office of Wooton, in Las Animas County.

Q. What State?

A. Colorado. Now, I can give the date of the establishment of this office.

Q. All right.

A. The Wooton office was established December 4, 1908.

Q. Please state when and where the post office known as La Costilla was established?

A. Here (indicating on record book) is one called Costilla.

Q. The one I am speaking about is La Costilla.

[fol. 665] A. Is the "La" given?

Q. Yes; it is given as "La Costilla."

A. I do not find any post office there, "La Costilla." Now, you understand that there may have been a place named La Costilla, but the Department leaves off the "La" in those cases.

Q. I hand you this map, and ask you to state what it is (handing paper to witness).

A. (Examining paper.) This is the Post Route Map showing all post offices in operation at the present time in the State of Colorado, published by direction of the Postmaster General, by the Post Office Department.

Q. State whether this map shows the boundaries of the State of Colorado, and the post office established within said boundaries?

A. It does.

Mr. Ramsey: We now offer in evidence this map marked for identification as "Colorado's Exhibit No. 19".

(The map so referred to was received in evidence, and marked "Colorado Exhibit No. 19.")

By Mr. Ramsey:

Q. I hand you a paper relating to the establishment of a post office at Edith, in Archuleta County, Colorado, and ask you to state what it is. (handing paper to witness).

A. (Examining paper.) This paper or statement is one that is required of applicants for the establishment of a post office, giving, for the benefit of the Post Office Department and the topographer in preparation of post route maps, and for other service reasons, the [fol. 666] exact location of the post office to be established; that is, it purports to state in what county and State the post office is to be established, as well as other material information concerning the sections, townships, ranges, etc. It also gives other material information, as, for instance, how far it is from the nearest post office and the nearest railroad, etc. The purport of this thing is to show the exact location of the proposed office.

Mr. Clancy: If you are going to offer it, it can speak for itself as to what it is.

By Mr. Ramsey:

Q. In what State and county does that show that the post office known as Edith is located?

Mr. Clancy: It ought to speak for itself.

A. Yes; it shows right here on the fact that it is in the northeast quarter of section 23, township 32 north, range 1 west, in the county of Archuleta, State of Colorado.

By Mr. Ramsey:

Q. Now, turning over on the back of that sheet of paper, explain what that contains?

A. A diagram showing the site of the proposed post office, which it is stated is in Archuleta County, Colorado.

Mr. Ramsey: We now offer in evidence this original document; but as it is a record belonging to the Department, we will have made a copy of the same and file it with the examiner, marked "Colorado's Exhibit No. 20."

(The paper so referred to was received in evidence, and a copy thereof was marked "Colorado Exhibit No. 20.")

By Mr. Ramsey:

Q. Please examine this paper which I now hand you, and state [fol. 667] what it is (handing paper to witness).

A. (Examining paper.) This is a tracing showing the exact location of the proposed post office at Edith, Archuleta County, Colorado.

Q. Does that diagram show there the State line with reference to the post office of Edith?

A. It does.

Q. Is Edith as shown by the diagram above or below the State line between Colorado and New Mexico?

A. Above the State line, in the State of Colorado.

Mr. Ramsey: We now offer in evidence this diagram; but as it is an original record in the Department, we desire to have a copy made of the same and filed with the examiner as part of the evidence, marked for identification as Colorado's Exhibit No. 21.

(The paper so referred to was received in evidence, and a copy thereof was marked, "Colorado Exhibit No. 21.")

The Witness: That (indicating) was submitted to the Department at the time this (indicating) was; the date is shown here (indicating), "Received in the Post Office Department, November 13, 1895." This other was received on the same day; they are both stamped on the same day, Nov. 13, 1894; one accompanied the other; that is, they both came in together.

By Mr. Ramsey:

Q. Now, recurring to the post office at La Boca, when and where was the post office known as La Boca established?

A. In the record book covering the period from 1896 to 1908, appears the post office La Boca, established in San Juan County, New [fol. 668] Mexico, April 12, 1902. In the record book *book* from 1900 to 1908, appears the post office of La Boca, in La Plata County, Colorado; the first entry of that office in said county and State of Colorado being under date of February 23, 1909.

Q. And where has said post office remained since February 23, 1909?

A. In La Plata County, Colorado.

Mr. Ramsey: That answers my question. Have you any cross examination, Mr. Clancy?

Mr. Clancy: I have not anything to ask him.

(Witness excused.)

Mr. Keyes: This is all the testimony we have to offer in Washington at this time.

The Examiner: Mr. Clancy, have you anything to offer?

Mr. Clancy: No; my statement at the beginning shows that I have nothing at this time and place.

(Thereupon, at 3 o'clock p. m., an adjournment was taken.)

I have read over the foregoing transcript of my testimony, and the same is correct.

Simon E. Sullivan, Witness.

[fol. 669] IN THE SUPREME COURT OF THE UNITED STATES

[Title omitted]

EXAMINER'S CERTIFICATE

To the Honorable the Supreme Court of the United States:

The undersigned Examiner, appointed and designated by orders of this Court entered in this cause, respectively, on the 30th day of January, 1922, and the 15th day of May, 1922, to take all proofs which may be offered by the parties to this cause in Washington D. C., and to return the same, together with all proceedings in connection therewith and all exhibits submitted by the parties to this Court, respectfully reports to the Court that, on July 3, 1922, he took the oath required by said orders; and on July 5 and 6, in Washington, D. C., counsel for the respective parties being present, he proceeded, pursuant to said orders, to take the testimony offered in the cause; and on the last-named day the final session was held in said city, the parties offering no more testimony in said city.

The said orders were executed by receiving the testimony of the several witnesses named in the testimony, who were sworn to testify to the truth, the whole truth, and nothing but the truth, before giving [fol. 670] their evidence; and the testimoney so given by them was taken down in shorthand by the examiner, and is herewith submitted, together with the exhibits offered in evidence. Said testimony is contained in 36 typewritten pages, numbered from 1 to 36, inclusive, and the exhibits introduced were numbered from "Colorado Exhibit No. 1," to "Colorado Exhibit No. 21," inclusive. All of the testimony and all of the exhibits offered were offered by the defendant the State of Colorado, the complainant, the State of New Mexico, offering no testimony or exhibits.

The said testimony and exhibits, including a certain stipulation of counsel, have all been filed with the Clerk of this Honorable Court. And the undersigned Examiner hereby certifies to the correctness of said testimony and proceedings.

Respectfully submitted, Douglas O. Morgan, Examiner.

Dated at Washington, D. C., Sept. 2, 1922.

"E" JAD

New Mexico vs. Colorado. Orig. No. 17. Pp. 14 & 15 of Testimony.

D. O. M.

1–207

Department of the Interior. C. S. D. B.

J. A. D.

General Land Office,
Washington, July 19, 1922.

I hereby certify that the annexed photographic copy of a letter dated May 26, 1868, from the Commissioner of the General Land Office, addressed to Ehud N. Darling, Surveyor, concerning the survey of the Northern boundary of New Mexico is a true and literal exemplification of the official record of said letter on file in this office.

In testimony whereof I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

D. K. Parrott, Acting Assistant Commissioner of the General Land Office. (Seal of United States General Land Office.)

[fol. 672]

Department of the Interior,
General Land Office, May 22d, 1868.

Ehud N. Darling, Esq., Washington, D. C.

Sir: I transmit herewith triplicate Contract and Bond entered into between the Commissioner of the General Land Office and yourself under date of May 22d, 1868, for the survey of the 37th Parallel of North Latitude, so far as it constitutes the North Boundary of the Territory of New Mexico.

Inasmuch as the execution of the survey has heretofore been delayed by a party who had contracted for the same, it is expected that you will at once proceed to the sphere of your duty under the aforesaid Contract and diligently prosecute the work with due regard to accuracy and permanency of the survey.

Very respectfully, Your obedient servant, Jos. S. Wilson, Commissioner.

Return of the Survey made Apl. 14, 1869.

Department of the Interior,
General Land Office, May 26th, 1868.

Ehud N. Darling, Esq., Surveyor Northern Boundary of New Mexico.

Sir: In connection with your contract of the 22d inst., for the determination surveying and marking of the Northern Boundary of

New Mexico. I transmit herewith a sketch of the country near the Southern boundary of Kansas, astronomically established and surveyed under direction of War Department in 1857, being on the same parallel of North Latitude you are to survey the boundary under your Contract as aforesaid. I also inclose you copy of a communication from A. A. Humphreys, Brig. Genl. & Chf. of Engineers, &c., dated April 22: 1867, bearing upon the subject matter of the Western terminus of the Southern boundary of Kansas, as well as the intersection point of the 103d West Longitude from Greenwich with the 37th parallel of North Latitude, which point of intersection, or the initial point of your survey under the contract, you will perceive, was commemorated in 1859 by Capt. J. N. Macomb, Corps of Topographical Engineers, by a rough stone monument situated 11 582 feet to the East of the original monument placed in 1857 constructed of earth and sod at a distance of 462.7 miles West of the Western Boundary of the State of Missouri.

With the aid of these evidences of the beginning point of your survey of the Northern Boundary of New Mexico, you will be enabled to identify it and in case the stone monument is found in its proper place, and intact, you will adopt it as the monument designating the North Eastern corner of New Mexico. Should, however, the aforesaid rough stone monument be missing and its proper position doubtful, then in that contingency you will determine the point of intersection of the 37th parallel North Latitude with the 103d Longitude West of Greenwich & perpetuate the same in the manner stipulated [fol. 674] in your contract.

As the boundary you have contracted to determine and survey is of great importance to the political jurisdictions of the territories of New Mexico, and Colorado it is deemed necessary that, before you proceed in the survey of it, the evidence of skill and qualifications of the person whom you employ as an astronomer in the work be submitted to this office for the approbation of the Department or otherwise.

I am, very respectfully, your obt. servt., Jos. S. Wilson, Commissioner.

Department of the Interior.
General Land Office, June 5, 1868.

John A. Clerk, Esq., Surveyor General, Santa Fe, New Mexico.

SIR: The account of Bidwell & Farwell for stationery furnished your office, amounting to $132.51 received with your letter of the 25th ult. from Freeport, Illinois, was this day reported to the Treasury for payment with request that draft be sent to payees at Freeport, Ill. as directed in your letter.

Very respectfully, &c., Jos. S. Wilson, Commissioner.

[fol. 675] COLORADO EXHIBIT NOS. 17 AND 18.

"E" JAD

New Mexico vs. Colorado, Orig. No. 17, p. 19 of Testimony.
D. O. Morgan.

Department of the Interior, C. L. D. B.
General Land Office,
Washington, July 19, 1922.

J. A. D.

I hereby certify that the annexed photographic copy of a letter dated February 7, 1918, from the U. S. Surveyor General for New Mexico addressed to the Commissioner General Land Office transmitting the returns of the resurvey of the Colorado, New Mexico boundary and reply thereto dated July 6, 1918, acceptance of said resurvey, are true and literal exemplification of the official record of said letters on file in this office.

In testimony whereof I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

D. K. Parrott, Acting Assistant Commissioner of the General Land Office. (Seal United States General Land Office.)

[fol. 676] 4243. 1-130. 3-190. 650,446.

"E." C6T. 650,446. Transmitting returns. Colo.-N. M. Bdy. survey, Gp. 79, New Mexico. Incls. EFW.

To Sur. Gen. July 6, 1918, accepting survey. Letter approved by Secretary. J. B.

Department of the Interior,
Office of the U. S. Surveyor General,
Santa Fe, New Mexico, Feb. 7, 1918.

The Commissioner General Land Office, Washington, D. C.

SIR: Herewith I am sending you, for your consideration and approval, plat and book of field notes of the resurvey of a portion of the Colorado-New Mexico Boundary (Darling Survey), from the 246 Mile Corner to Astronomical Monument No. 8, surveyed under instructions for Group 79, New Mexico, authorized by your letter 650446 "E" C6T, dated March 20, 1917.

Cost card showing the cost of this resurvey is also enclosed.

Very respectfully, Lucius Dills, U. S. Surveyor General. MC

[fol. 667] In reply please refer to 650446 "E" 2. J. B.
Gr. 79, New Mex.
Address only the Commissioner of the General Land Office.

Department of the Interior.

General Land Office,
Washington, July 6, 1918.

Acceptance of resurvey Colorado-New Mexico boundary.

U. S. Surveyor General, Santa Fe, New Mexico.

SIR: With your letter dated February 7, 1918, there were received in this office the plat and field notes of the restoration and resurvey of a portion of the Colorado-New Mexico boundary line extending from the 213 mile corner west to Astronomical Monument No. 8, as executed by William C. Perkins, U. S. Surveyor, under instructions issued in office letter "E" of May 23, 1917, to Mr. Frank M. Johnson, Supervisor of Surveys.

A careful examination has been made of these returns of surveys. The work in the field appears to have been accurately and properly performed and as the resurvey is deemed to be correct it is hereby accepted.

[fol. 678] In view of the importance of this matter a review will be made of the essential developments, and the force and effect of the present reestablishment of the boundary will be explained.

The Territory of Colorado was organized under the Act of February 28, 1861 (12 Stat., 172), and the south boundary of said Territory was fixed as the thirty-seventh parallel of latitude between the twenty-fifth and thirty-second meridian of longitude west of Washington.

The State of Colorado was admitted into the Union in 1876, and the second section of the Enabling Act of March 3, 1875 (18 Stat., 475), fixes this boundary "along the thirty-seventh parallel of north latitude", being the line which had theretofore been declared as the south boundary of the Territory.

The initial determination of the location of the thirty-seventh parallel of latitude in the locality mentioned was made in 1857 under the direction of Col. Joseph E. Johnston, U. S. Army, who established the same as far west as his determination of the 103d [fol. 679] Meridian west of Greenwich, said meridian being the legal east boundary of New Mexico. In 1859 Captain Macomb, U. S. Army, under orders from the War Department, established a new monument at a point about two miles east of the Johnston monument because of errors made in Col. Johnston's determination, and in 1868 Ehud N. Darling, U. S. Surveyor and Astronomer, under contract with this office, established the north boundary of New Mexico from the Macomb monument west to the 109th meridian on the 37th parallel of latitude, as determined by a series of astronomical observations and calculations. Mile corners are reported to have been established on the line wherever the nature of the country would permit for a distance of 331¼ miles, but owing to the reported roughness of the country the line for long distances in certain places was unmarked by Darling in any manner.

In 1873 it became necessary to establish the east boundary of the Southern Ute Indian Reservation in Colorado, the same being the 107th meridian as extended north from the 37th parallel of latitude. Under instructions from this office R. C. Darling, U. S. Surveyor, [fol. 680] established at a point on the E. N. Darling line the southeast corner of the said reservation, estimated as on the 107th meridian. A question having arisen as to the correctness of said location, S. S. Gannett, of the Geological Survey, in 1897, determined for the Indian Office the true location of the said reservation corner by astronomical observations.

By the Act of July 1, 1902 (32 Stat., 552, 574) appropriation was made "for the resurvey and reestablishment on the line of the thirty-seventh parallel of north latitude, of the boundary between the State of Colorado, and the Territories of New Mexico and Oklahoma, which is coincident with said parallel between the twenty-fifth and thirty-second degrees of longitude west of Washington."

In pursuance of this act of Congress this office entered into a contract with Howard B. Carpenter, Surveyor and Astronomer, for the survey and establishment of the said thirty-seventh parallel of latitude. The Carpenter survey having been executed in accordance with the terms of the contract was duly accepted by this office. [fol. 681] The line as established by Carpenter was surveyed without regard to the original Darling survey of the 37th parallel, and the practical effects of the Carpenter line, if adopted, would be to remove a strip of land along the major portion of the boundary, which includes several settlements and towns of importance, theretofore under the jurisdiction of Colorado, and add the same to New Mexico. The Gannett monument [illegible] referred to, was found by Carpenter to be located three [illegible]th of his determination of the parallel. The records of this office show the following difference in the relative position of the Darling and Carpenter lines: Commencing at Ewell Canon, near the New Mexico Principal Meridian, the records show that from this point westward for a distance of about 100 miles to astronomical monument No. 1, the Darling line is situated from 5 to 10 chains south of the Carpenter line, and from astronomical monument No. 1 westward to the southeast corner of Colorado, a distance of 20 miles, the two lines appear to be almost coincident. From Ewell Canon eastward there is noted a maximum difference of about 56 chains in the vicinity of Dar- [fol. 682] ling's 206 mile corner, which difference gradually diminishes toward the east for a distance of about 175 miles until the two lines cross each other, and along the last 38 miles they are in very close agreement.

Page 8, it will be noted, is a diagram, on a scale of 43 miles to the inch, representing the position of that portion of the Darling line as now resurveyed and approved, in its relation to the Carpenter line. The diagram is incorporated as part of the letter and the foregoing discussion relative to the Carpenter and other determinations of the parallel of latitude is introduced so that we may here have, for future reference, a more or less complete resume of all

RESURVEY
COLORADO NEW MEXICO BOUNDARY
Carpenter Line Shown in Red
Scale 1 Inch = 2 Miles

Astronomical Monument No 6
Carpenter 30 to Cor
1939 Carpenter
Gunnell Mon
1917
1939 Carpenter
Astronomical Mon No 7
Edith
1937 Carpenter
1106 M
1106 100 M Carpenter
New Mexico Principal Meridian
Angle point
Angle point
Carpenter Cor
1936 Carpenter Cor
Colorado
New Mexico
Colorado

683

Page 7

the essential features pertaining to the location of the Colorado-New Mexico boundary.

(Here follows drawing, marked side folio page 683).

On December 7, 1908, Congress passed Joint Resolution S. R. 78, which provided for the adoption of the Carpenter line as the boundary, but the same was returned by the President December 19, 1908, [fol. 684] without approval. The line as established by Carpenter, therefore, was never officially adopted as the boundary, and the action taken by this office in accepting the Carpenter survey is to be interpreted merely as indicating that Surveyor Carpenter complied in full with the terms of the contract entered into between him and this office.

The effect of the present restoration of a portion of the Darling line will now be considered. The plat and field notes of the original survey as executed by Darling in 1868 represent the boundary to be established on an unbroken line along the thirty-seventh parallel of latitude. The present restoration, however, indicates that a break in the line occurred in the vicinity of Ewell Canon. From the best available evidence it is concluded that from the 206th mile corner the line was surveyed west to the canon and that from Astronomical Monument No. 7 the line was extended east to the canon. This procedure has been repeated in the present survey and the two lines [fol. 685] have been connected at the most feasible position in the canon. The line as thus established disturbs in the smallest degree the rights of bona fide entrymen, and at the same time will involve the least difficulty in the completion and closing of the public land surveys adjacent to the boundary.

The correctness of the present reestablishment is confirmed by the fact that several original corners or the positions thereof which have been adopted as controlling the alignment and location of the boundary are the same as were found and identified by Supervisor of Surveys Frank M. Johnson in 1901.

Attention is now invited to office letter "L" (W. T. P.), dated April 30, 1902, to the Department wherein it was stated that,

"Notwithstanding the different locations of the monuments which were supposed to have been established upon the thirty-seventh parallel of latitude, this office is of the opinion that for all administrative purposes the line established by E. N. Darling in 1868, wherever its location can be identified beyond a reasonable doubt, should be recognized as the boundary line."

This view is now reaffirmed, and the location of the boundary by Darling as reestablished in the current survey will accordingly con- [fol. 686] trol in all matters of public land surveys and administration, for the following reasons:

The Darling original survey of the boundary was made in the

year 1868, when both Colorado and New Mexico, as Territories, were under the jurisdiction of the Federal Government. The establishment of a common boundary between the Territories was a matter entirely within the control of the Government and the so called Darling location which was executed under proper Federal authority and duly accepted, was in the absence of fraud or gross irregularity, conclusive upon the Territories. When the State of Colorado was admitted into the Union in 1876, it was in accordance with the boundary established by Mr. E. N. Darling in 1868.

Defects in the original survey discovered after a long term of years do not affect the validity of the establishment. It may be cited that the boundary between South Dakota and Montana is fourteen chains west of the boundary between South Dakota and Wyoming, although both are declared to be the same meridian of longitude, namely twenty-seven degrees west of Washington. As [fol. 687] another instance of defective original establishment of a State boundary may be mentioned the boundary between Wyoming and Montana in the vicinity of T. 58 N., R. 101 W., 6th P. M., Wyoming. This boundary although declared to be on the 45th parallel of latitude contains a break in the line at mile post No. 97. The line between mile post 97 and 98 according to the records of this office was found to be S. 66 degrees E., 87.37 chains, which corresponds to a difference of about 37 chains in latitudinal position. The marked similarity between this case and the one in hand will be noted. There is of course no intention of making any change in these boundaries. When it is understood that an error of one second of arc of latitude is equivalent to an error of about 100 feet measured upon the earth's surface, no two independent establishments of a parallel of latitude can be in exact agreement. The well established principle of law that monuments control over courses and distances is quite applicable to this case.

In conclusion, it may be added that to reestablish the boundary [fol. 688] at any other location excepting in its original position would cause complications and unduly disturb the legal titles to numerous parcels of land acquired in good faith. Furthermore, such an establishment, in case of controversy, involving, as it would, a change in the location of the boundary between two States, could be effected only by invoking by appropriate proceedings the original jurisdiction of the U. S. Supreme Court. (See R. I. v. Mass., 12 Pet., 657; N. J. v. N. Y., 5 Pet., 284; Mo. v. Iowa, 7 How., 506; Fla. v. Ga., 17 How. 478; Ala. v. Ga., 23 How. 505; Va. v. W. Va., 11 Wall., 39; Mo. v. Ky., 11 Wall., 395; Ind. v. Ky., 136 U. S., 479; Nebr. v. Iowa, 143 U. S., 357; Va. v. Tenn., 148 U. S., 503).

The Governors of Colorado and New Mexico have been furnished with copies of this letter. If the Legislatures of these States would formally approve and adopt the Darling line as the boundary it will put an end to a troublesome controversy of long standing, which is of more theoretical than practical importance.

Approved: Jul. 6, 1918.

Very respectfully, (Signed) Clay Tallman, Commissioner.
(Signed) Alexander T. Vogelsang, Secretary.

[fol. 689] COLORADO EXHIBIT No. 1

"E" Jad

New Mexico vs. Colorado, Orig. No. 17, P. 13 of Testimony D. O. M.

4-207

J. A. D. Department of the Interior. E. L. D. B.
General Land Office,
Washington, D. C., July 19, 1922.

I hereby certify that the annexed photographic copy of the contract and Bond, dated May 22, 1868, between the Commissioner of the General Land Office, and Ehud N. Darling, for the survey of the northern boundary of New Mexico, is a true and literal exemplification of the said contract and Bond on file in this office.

In testimony whereof I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

D. K. Parrott, Acting Assistant Commissioner of the General Land Office. (Seal United States General Land Office.)

[fol. 690] This agreement made this 22d day of May, 1868, between Joseph S. Wilson, Commissioner of the General Land Office, acting for and in behalf of the United States of the one part and Ehud N. Darling, of the State of Kansas of the other part.

Witnesseth:

That the said Ehud N. Darling for and in consideration of the conditions, terms and provisions and covenants hereinafter expressed, and according to the true intent and meaning thereof, does hereby covenant promise and agree, with the said Commissioner in his capacity aforesaid, that the said Ehud N. Darling in his own proper person, with the assistance of such astronomers, chainmen, axmen, flag-bearers and others, as may be necessary agreeably with the laws of the United States and with such general and special instructions as he may receive from the Commissioner or his successors in Office will well, truly and faithfully establish by astronomical observa-
[fol. 691] tions the 37th parallel of North Latitude between the 103rd and 109th degrees of West longitude from Greenwich, which is a boundary common to New Mexico and Colorado Territories as defined by Acts of Congress approved September 9th, 1850 vide section 2, Statutes at Large Vol. 9, page 447 and Febry 28th, 1861, See Section 1 of "An Act to provide a temporary government for the Territory of Colorado," Statutes at Large, Vol. 12, page 172.

The said Ehud N. Darling will survey and mark said line on the surface of the earth by the erection of monuments, mounds and posts constructed and inscribed as specified in the paper hereunto annexed and marked "A," all and every specification and condition of which is hereby incorporated and made a part of this agreement, and is here referred to for a particular description of said monuments,

mounds and posts. And the said Ehud N. Darling will complete these observations, calculations and surveys in the manner aforesaid, and return the true record of observations, reductions of final results, [fol. 692] field notes and plats of said boundary line, in the form prescribed, in triplicate, to the General Land Office on or before the first day of June, 1869, (acts of God excepted) on penalty of forfeiture and paying to the United States the sum of Thirty-eight thousand ($38,000) Dollars as specified in the annexed bond executed by the said Ehud N. Darling and bearing date the 22d day of May, 1868, if default be made in any of the foregoing conditions.

And the said Joseph S. Wilson, in his capacity as Commissioner as aforesaid, covenants and agrees with said Ehud N. Darling, that on the completion of the observations and surveys above named and the returns thereof in the manner aforesaid, there should be paid by the United States unto the said Ehud N. Darling, as a full compensation for the whole expense of said observations and surveys and making returns thereof, including the use of his own instruments, the sum of Nineteen thousand dollars ($19,000).

[fol. 693] And it is farther understood and agreed by and between the parties to this Agreement that the said Commissioner reserves to himself in his said capacity and to his successors in Office, the right in the event of his or their having reasonable ground to believe that the work contemplated to be performed by the said Ehud N. Darling under the contract, shall not have been executed in the manner contemplated by the said laws and instructions, and that an examination thereof is required by the public interests, to appoint at any time a competent and disinterested examiner or examiners to inspect the said work in the field at the cost and expense of the said Ehud N. Darling. And that should any correction for error in survey or want of durability be found in establishing the monuments and land marks on the earth's surface, the cost incident to the same shall be paid out of the sum hereinbefore agreed upon, as the consideration for the whole service, it being understood that this contract is not to become effective until the approval of the Secretary of the Interior [fol. 694] shall be appended hereto. Provided that no member of Congress or subagent or contractor shall have any part or interest in this Contract, and that no payment shall be made for any surveys not executed by the said Ehud N. Darling himself in his own proper person.

In testimony whereof, the parties to these articles of agreement have hereunto set their hands and seals the day and year above written.

Jos S. Wilson (Seal), Commissioner of the General Land Office. Ehud N. Darling (Seal), Astronomer and Surveyor.

Signed, sealed and acknowledged before us J. F. Callan. Saml. S. Smoot.

I, Ehud N. Darling, Astronomer and Surveyor, do solemnly swear that I will truly, faithfully and impartially execute the observations, [fol. 695] calculations and surveys mentioned in the foregoing agree-

ments to the best of my ability and skill, in accordance with the laws and instructions therein mentioned.

Ehud N. Darling (Seal).

Sworn to and subscribed by the said Ehud N. Darling before me, a Notary Public, this 22d day of May, 1868. John F. Callan, Notary Public.

[fol. 696]

Bond

Know all men by these presents, that we, Ehud N. Darling of the State of Kansas as Principal, and Saml. S. Smoot and Solomon Markham of the State of Kansas and Almon Hovey of the State of Nevada as sureties, are held and firmly bound to the United States in the sum of Thirty eight thousand dollars lawful money of the United States, being double the estimated amount which would be due by the United States to the said Ehud N. Darling on the completion of the observations and surveys named in the agreement entered into on the 22d day of May 1868, by Joseph S. Wilson as Commissioner of the General Land Office and the said Ehud N. Darling hereto annexed for which payment well and truly to be made, we bind ourselves, our heirs, executors, and administrators, and each and every one of us and them, jointly and severally, firmly by these presents: signed with our hands and sealed with our seals this 22nd day of May 1868.

[fol. 697] The condition of the above obligation is such, That if the above bounden Ehud N. Darling shall well and truly and faithfully, according to the laws of the United States and the instructions of the said Commissioner make and execute the *the* observations, calculations and surveys which are required to be made by him by the said Agreement in the manner prescribed thereby; and shall also make due return of the calculations, observations, plats and notes thereof in the manner and within the time prescribed by said agreement and instructions, or within such extension of the said time as the said Commissioner may afterwards designate, then this obligation to be void, otherwise and in default of a complete and full compliance with either or any of said obligations in said agreement, it shall remain in full force and effect.

[fol. 698] Saml. S. Smoot (Seal), Solomon Markham (Seal), Almon Hovey (Seal), Ehud N. Darling (Seal).

Signed, sealed and acknowledged before us, J. F. Callan, Chas Cons Callan, M. B. Robinson.

Department of the Interior,
Washington, D. C., May 22nd, 1868.

I, O. H. Browning, Secretary of the Interior do certify that, in my opinion the sureties to the above Bond are sufficient and I do hereby approve the same.

Witness my hand and seal of Office this 22d day of May 1868.

O. H. Browning, Secretary of the Interior.

[fol. 699] Oath

Prescribed to be Taken by All Persons in the Public Service, by Act of Congress Approved July 2, 1862

I, Ehud N. Darling, of the State of Kansas, do solemnly swear that I have never voluntarily borne arms against the United States since I have been a citizen thereof; that I have voluntarily given no aid, countenance, counsel, or encouragement to persons engaged in armed hostility thereto; that I have neither sought nor accepted nor attempted to exercise the functions of any office whatever under any authority or pretended authority in hostility to the United States; that I have not yielded a voluntary support to any pretended government, authority, power, or constitution, within the United States, hostile or inimical thereto. And I do further swear that, to the best of my knowledge and ability, I will support and defend the Constitution of the United States against all enemies, foreign and domestic; that I will bear true faith and allegiance to the same; that I take this obligation freely, without any mental reservation or purpose of evasion and that I will well and faithfully discharge the duties of the office on which I am about to enter: So help me God.

Ehud N. Darling (Seal).

District of Columbia,
Washington County, ss:

Sworn and subscribed to before me, this 22d day of May A. D. 1868.

John F. Callan, Notary Public.

[fol. 700] Department of the Interior, May 22d, 1868.

The foregoing Contract and Bond are hereby approved.

O. H. Browning. (Seal.)

[fol. 701] "A"

Proposal and Agreement to Survey the Boundary Line Between New Mexico and Colorado Territories

I, Ehud N. Darling of the State of Kansas, having been designated by the Hon. O. H. Browning Secretary of the Interior, Surveyor for the establishment of the boundary line between New Mexico and Colorado Territories included between the 103d and 109th degrees of West longitude from Greenwich, on the 37th parallel of North latitude, obligate myself to execute the survey in the following manner:

As this is an important geographical line, I will determine it by a series of astronomical observations eleven nearly equidistant stations near the 37th parallel of North latitude included between the aforesaid points, in order to establish it; I will take at least six hundred observations of circum meridian and circum polar stars for lati-
[fol. 702] tude, and East and West stars near the prime vertical for

time. These observations will be reduced and subjected to a rigorous discussion, and the final results deduced in accordance with well established mathematical formula and a complete record of the astronomical, magnetic and other observations, and the various reductions and final results will be forwarded to the Commissioner of the General Land Office in proper form to be permanently preserved for future reference.

1st. Opposite to each of the eleven astronomical stations I will erect on the parallel established by me a shaft of stone not less than twelve inches in diameter in any part and at least six feet in length, three feet of which will project above the surface, one half the length being imbedded in the earth, twelve inches at the top of the shaft will be squared to correspond with the cardinal points of the compass, on which shall be durably inscribed by chiseling out the stone, on the [fol. 703] North "Colorado" on the South "New Mexico," on the East "1868" and on the West "37 N. L." Around this shaft I will construct a circular mound five feet in diameter, of stone boulders, firmly imbedded in the ground, and tapering up to the shaft at the height of two feet. On each of the four sides facing the shaft, I will dig a pit two feet square, eighteen inches deep and six feet from the base of the mound, and if there be any ornament natural objects which can be made available in perpetuating the monuments, the bearings and distances of such objects from the monument will be carefully ascertained and described in the notes as "Witnesses"; full and accurate description of the monuments will be given.

2nd. Having thus established the eleven astronomical monuments, it will remain to survey and mark the boundary line intermediate. In doing this I will use a "Transit" of approved manufacture and [fol. 704] Gunter's chain, carrying an extra standard chain with which the one used shall be compared and tested every morning, and as much oftener as may be necessary to insure its accuracy. As the work progresses, observations at night on polaris upper and lower culmination will be made.

I will make offsets from tangent to parallel from every astronomical monument East and West, to the equidistant points between them, perpetuating the true points in the parallel of latitude as follows: At the end of each mile I will raise an earthern or stone mound four feet high of a conical shape with a pit two feet square and eighteen inches deep on the East and West of the mound and six feet from its base; prior to constructing the mound, I will make an excavation in the centre of the mound, three feet and six inches deep, at the bottom of which I will place a marked stone, a quantity of charcoal or a charred block, stating in the field notes which of these is used and if stone is used describing the particular mark, and [fol. 705] above this I will plant a post eight feet in length and six inches square, beveled at the top, three feet in the ground, leaving twelve inches to project above the top of the mound, upon which will be durably marked on the north side "C." for Colorado; on the South "N. M." for New Mexico; on the West, "1868"; and on the

East the number of each mile from the initial station or the point of intersection of the 103d degree of West longitude with the 37th parallel of North latitude, to wit: "1 M., "2 M., &c.; every such mile post will be witnessed by as many natural objects or trees, and the bearings and distances carefully stated in the field notes, but if no permanent objects can be found, that fact will be noted.

Where the physical features of the country on the parallel will be found such as to preclude the possibility of overcoming them owing to the inaccessibility of snowy mountains, high and abrupt ridges, deep cañons or other insurmountable impediments to the di- [fol. 706] rect measurement of the tangent and the ascertainment of the differences of longitude between the astronomical stations, in that case triangulation checked by frequent determination of the latitude where the features of the country will afford the facilities for so doing, will be resorted to, in order to obtain the distance over impassable barriers. And in regard to the marking of the parallel in such contingencies, I will avail myself of the natural monuments such as peaks of mountains or other bold and prominent landmarks though at irregular distances yet standing on the parallel. As the paramount object in view is to make the boundary between New Mexico and Colorado Territories perceptible to the people of the respective jurisdictions, I will, in erecting monuments, locate those which cannot be placed at the proper mile points near travelled roads, rivers, and mountain passes. I will sketch the topography of the country, immediately along the parallel platting remarkable ranges [fol. 707] of mountains, lofty peaks by which the vicinity of the boundary and of the monuments perpetuating it can be identified. The maps of the boundary in triplicate will exhibit the eleven astronomical Monuments erected on the parallel together with other topographical data and in making returns of the same to the General Land Office they will be accompanied by a report showing the character of the observations, results and their application to the determination and marking of the 37th parallel of North Latitude coextensive with the common boundary between the Territories of New Mexico and Colorado; I will commemorate the initial and terminating points of the Boundary on the North East and North West corners of New Mexico by erecting more conspicuous monuments than those which will be built in the intermediate places, conditioned for their endurance, as well as for their ready re-establishment in case they are destroyed by time or accident.

[fol 708] 5th When the survey contemplated in this proposal is completed I will transmit to the General Land Office the Field notes and Maps of the Survey in triplicate, duly verified in such form as the Commissioner may require.

Finally, I hereby propose and agree to establish and survey the aforesaid boundary line and will and faithfully to do all and every act and thing herein specified subject to such directions and requirements as the Commissioner of the General Land Office may deem necessary for the sum of $19,000—the amount appropriated by Con-

ges for the service of that locality, per Act approved March 24, 1902.

Elwd N Darling (Seal)

Washington, D C, May 22d 1903
Witnesses J F Callan, Saml S Snow

[fol 709] Colorado Exhibits Nos 20 and 21

New Mexico & Colorado Orig No 1, Oct Term, 1922, Pp 34 and 35 of Testimony D O Mogan

Office of the Postmaster General,
Washington D C, July 7 1922

I hereby certify that the annexed are photostatic copies of the original documents filed in this Department relative to the establishment of the post office at Edith, Archuleta county, Colorado.

In testimony whereof I have hereto set my hand, and caused the seal of the Post Office Department to be affixed, at the City of Washington, the day and year above written.

Hubert Work, Postmaster General of the United States of America. Per M (Seal of the Post Office Department United States of America)

[fol 710] No. 1011

(Location Paper)

Post Office Department,
Office of the Fourth Assistant Postmaster General,
Appointment Division

Washington, D. C., Sept. 23, 1895.

SIR: Before the Postmaster General decides upon the application for the establishment of a post office at Edith, County of Archuleta, State of Colorado, it will be necessary for you to carefully answer the subjoined questions, get a neighboring postmaster to certify to the correctness of the answers, and return the location paper to the Department, addressed to me. If the site selected for the proposed office should not be on any mail route now under contract, only a "Special Office" can be established there to be supplied with mail from some convenient point on the nearest mail route by a special carrier (section 702 Postal Laws and Regulations of 1893), for which service a sum equal to twothirds of the amount of the salary of the postmaster at such office will be paid by the Department.

You should inform the contractor, or person performing service for him, of this application, and require him to execute the inclosed

certificate as to the practicability of supplying the proposed office with mail, and return the same to the Department.

Very respectfully, H. C. Maxwell, Fourth Assistant Postmaster General.

To Mr. Edgar M. Biggs, care of the Postmaster of Lumberton, N. Mex., who will please forward to him

Statement

The proposed office to be called Edith.

Select a short name for the proposed office, which when written will not resemble the name of any other post office in the State.

It will be situated in the N. E. quarter of Section 23, Township 32 (North or South), North, Range one (East or West), West, in the County of Archuleta, State of Colo.

It will be on or near route No. 65227, being the route from Pagosa Springs, Colo. to Lumberton, N. M., on which the mail is now carried six times per week.

Will it be directly on this route?—Ans. No.

If not, how far from it?—Ans. About ½ of one mile.

If not on any route, is a "Special Office" wanted?—Ans. No. To be supplied from Route 65227.

The name of the nearest office to the proposed one, on one side, is Lumberton, N. M., its distance is 7½ miles in a Southwesterly direction from the proposed office.

The name of the nearest office, on the other side, is Chromo, Colo., its distance is 5½ miles in a Northeasterly direction from the proposed office.

The name of the other nearest office to the proposed one is Pagosa Springs, Colo., its distance by the most direct road is 20 miles in a northerly direction from the proposed office.

The name of the most prominent river near it is Navajoe.

The name of the nearest creek is —.

The proposed office will be ¼ of one mile from said river, on the north side of it, and will be — miles from said nearest creek, on the — side of it.

The name of the nearest railroad is Rio Grande & Pagosa Springs R. R.

If on the line of or near a railroad, on which side will the office be located, how far from the track, and what is, or will be, the name of the station?—Ans. North side, 300 ft. Edith.

If it be a village, state the number of inhabitants.—Ans. 150.

Give the population to be supplied by the proposed office.—Ans. 200.

If it be a village, state the number of inhabitants.—Ans. —.

A diagram, or sketch from a map, showing the position of the proposed new office, with neighboring river or creek, roads and other post offices, towns, or villages near it, will be useful, and is therefore desired.

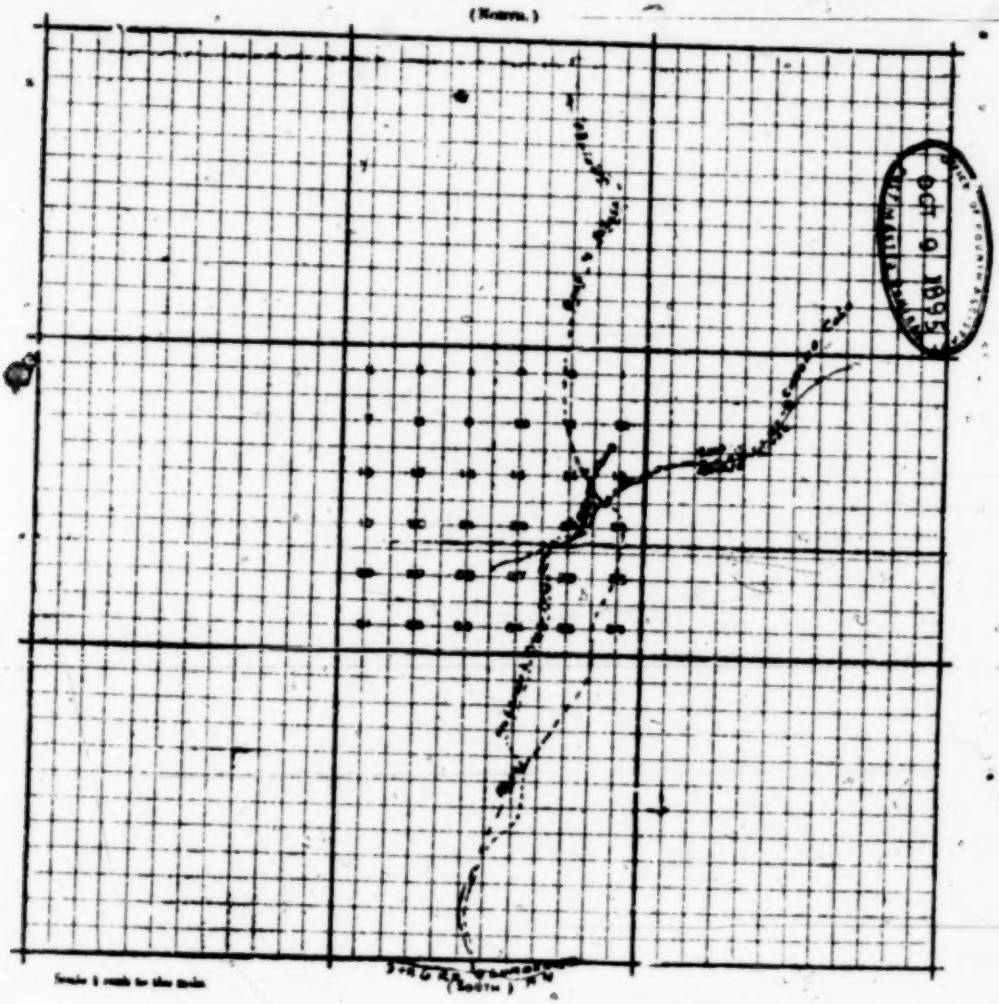
Diagram showing the site of the Edith

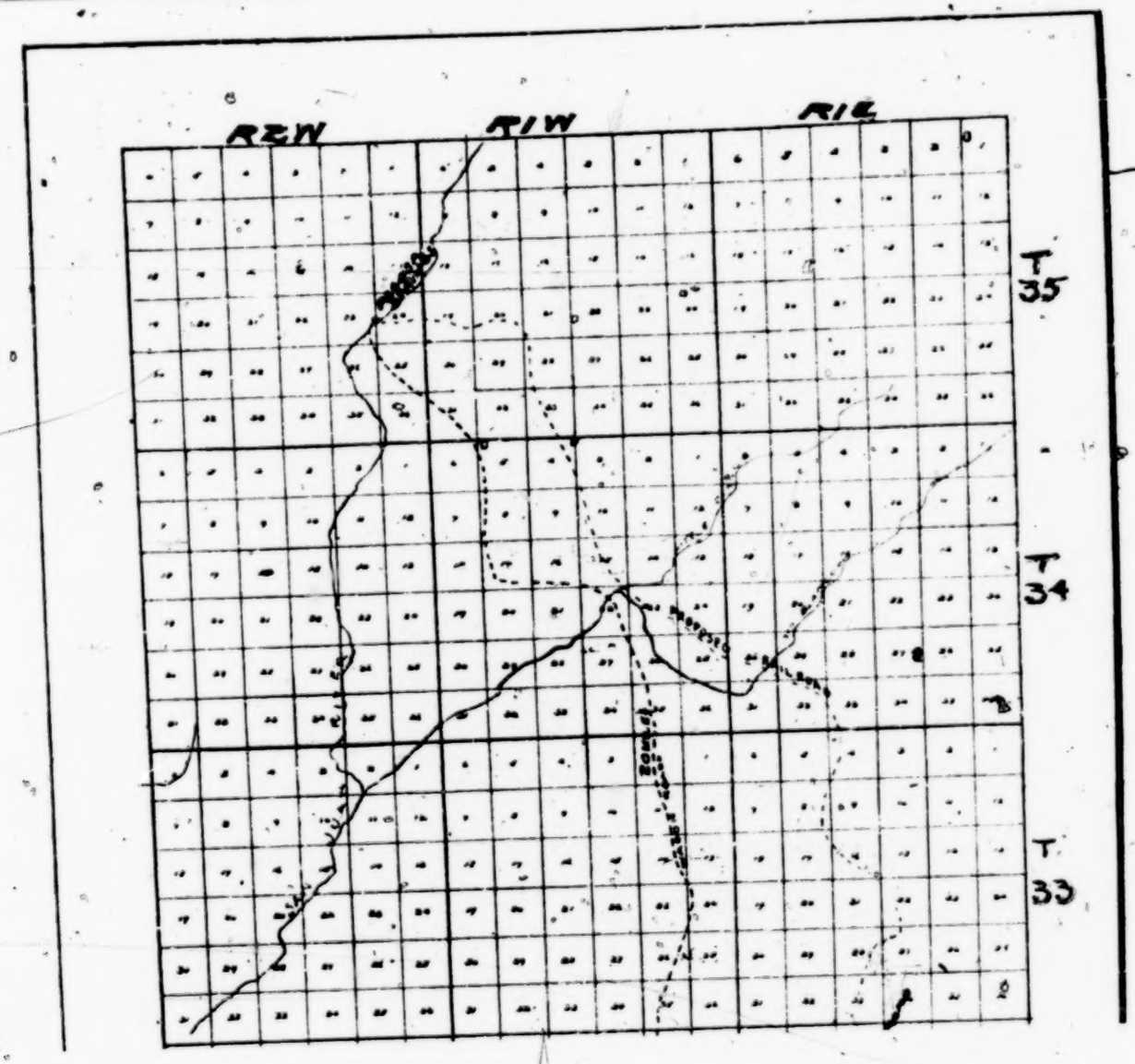
in Township 32 (N. of S.), Range 1 (E. of W.) of

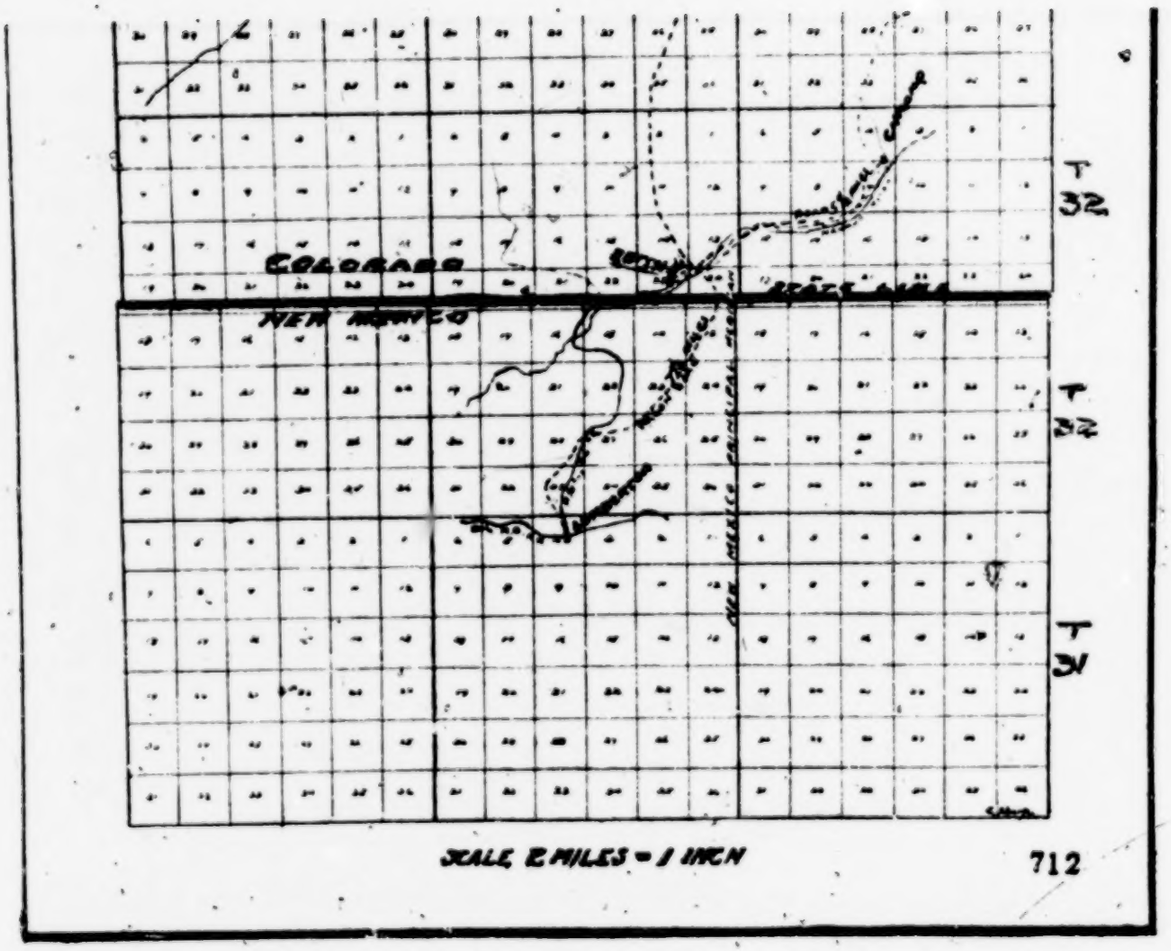
Meridian, County of Archuleta

of Colorado, with the adjacent Towns... and Post Offices.

It is requested that the exact site of the proposed or existing Post Office, the nam... roads to the adjoining offices, and the larger streams or rivers, be marked on this diagram, to be returned as soon as possible to the Post Office Department.




R2W
T1W
R1E
T 35
T 34
T 33


COLORADO
NEW MEXICO
T 32
T 32
T 31
SCALE 2 MILES = 1 INCH
712

Receipt with Mr. Darling's letter of April 14. 1869 — Surveyed under Gen. Land Office Report No 12 [illegible] 20 May 3. 18

MAP

of the

BOUNDARY LINE BETWEEN COLORADO & NEW

ON THE 37th PARALLEL NORTH LATITUDE

From the 103d to 109th of Longitude West from Greenwich

established and surveyed under the direction of

HON. JOSEPH S. WILSON

COMMISSIONER GENERAL LAND OFFICE. DEPARTMENT OF THE INT

BY

E.N. DARLING U.S. Surveyor & Astronomer *in 1868*

Scale of 2 miles to 1 inch.

COLORADO

SAN FRANCISCO

Astronomical Monument No 2

Road from San Francisco

Cimarron Valley

BOUNDARY LINE

Parallel 37° 00' 00" North

Astronomical Monument No 1

Rock Butte

Level Plateau

remote from streams above the level of the sea

Cimarron River

Road

PEAK

RATON MOUNTAINS

No 12/20 May 3. 1862

Sheet N°1.

—30'

—15'

Longitude West from Washington

26°

O & NEW MEXICO

LATITUDE

on Greenwich

ection of

SON

MENT OF THE INTERIOR

omer *in 1868*

HIGH PLATEAU

R A D O

Parallel 37° 00' 00" North Latitude.

INITIAL MONUMENT

Latitude 37° 00' 00"

Longitude 103° 00' 00"

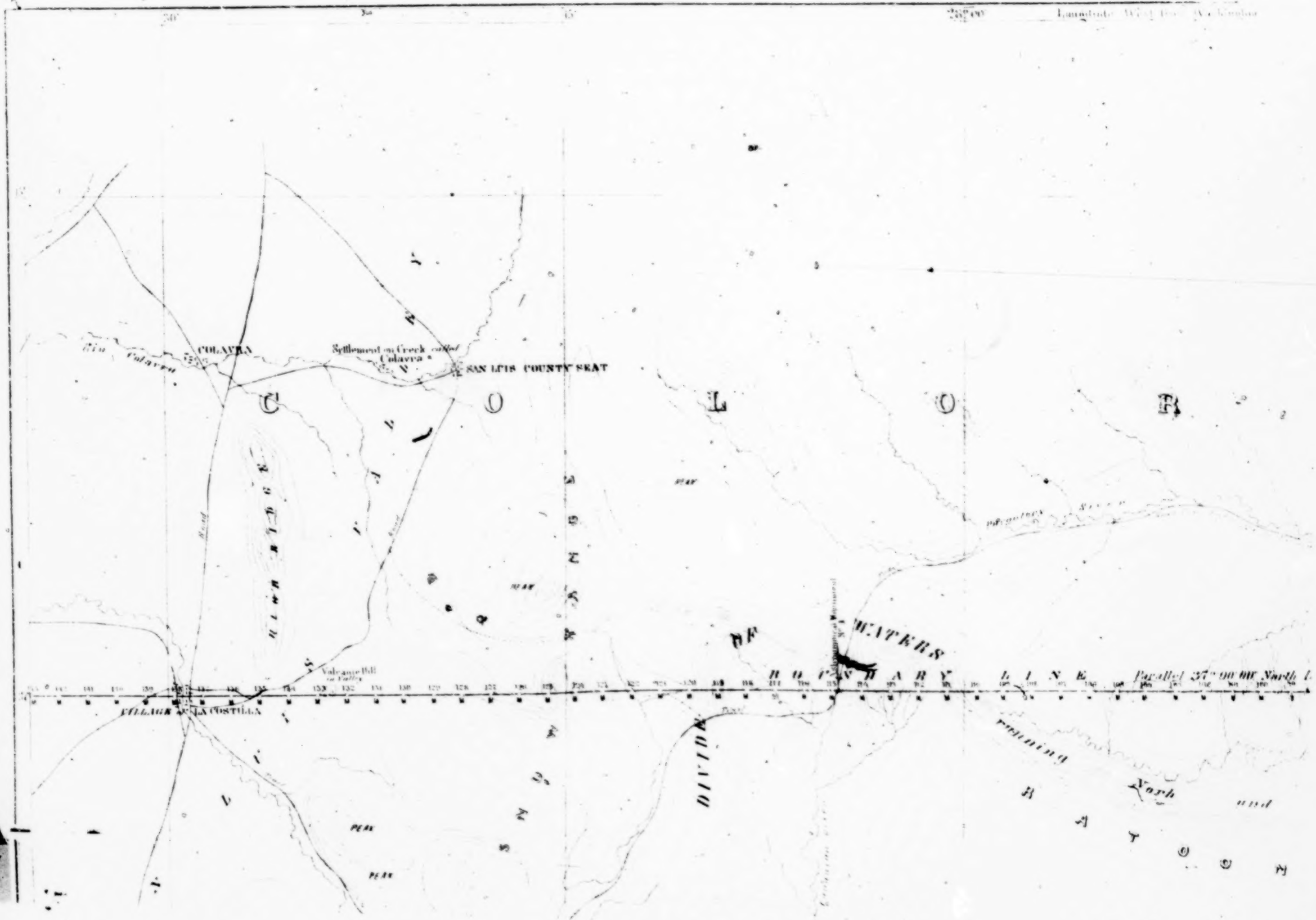
Road

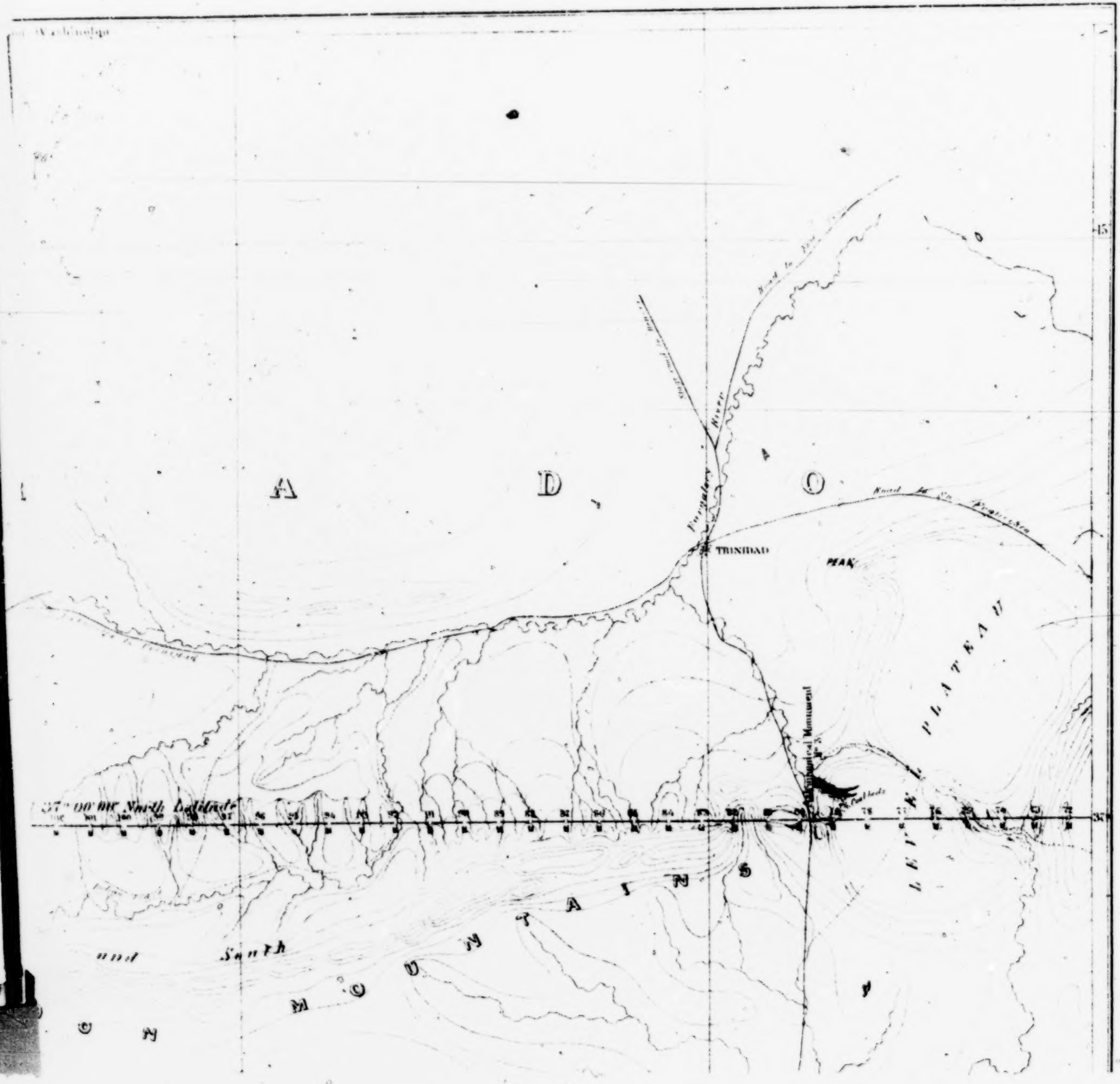
Cimarron River

M A R O N

New Mexico

15'


Latitude North from the Equator
Longitude West from the Meridian
Rio Calavera
COLAVERA
Settlement on Creek called Calavera
SAN LUIS COUNTY SEAT
C O L O R
Volcano Hill or Valley
VILLAGE DE LA COSTILLA
RIVER
PEAK
MOUNTAINS
BOUNDARY LINE
Parallel 37° 00' 00" North L.
Purgatoire
Arkansas
R I V E R


A D O
TRINIDAD
PEAK
Purgatory River
Road to Fort Pueblo
Road to Fort Pueblo
Road to Trinidad
Monument
Coal beds
PLATEAU
MOUNTAINS
MOUNTAIN
South
37° 00' 00" North Latitude

Longitude West from Washington

SIERRA BLANCO

SIERRA NAVAJO

HIGH PEAK

HIGH PEAK

LOW MOUNTS

C O L O R

Astronomical Monument No 7

RIO NAVAJO

HIGH PEAK

PEAK

PACIFIC DIVIDE or Waters running East & West

Astronomical Monument No 6.

B O U N D A R Y L I N E Parallel 37° 00' 00" North lat.

PEAK

Rio los pinos

Longitude West from Washington

R A D O

CONEJOS

Rio Conejos

Rio San Antonio

STANTHONY VILLAGE

Parallel 37° 00' 00" North latitude.

Rio San Antonio

Rio los pinos

SAN ANTONIO MOUNT

UTE PEAK
13800 ft above Valley

RLANTIC & PACIFIC R.R.

RATON MOUNTAIN

Cimarron R.

N E W M E

Branch of Cimarron R.

10 BOUNDARIES
Sheet 1

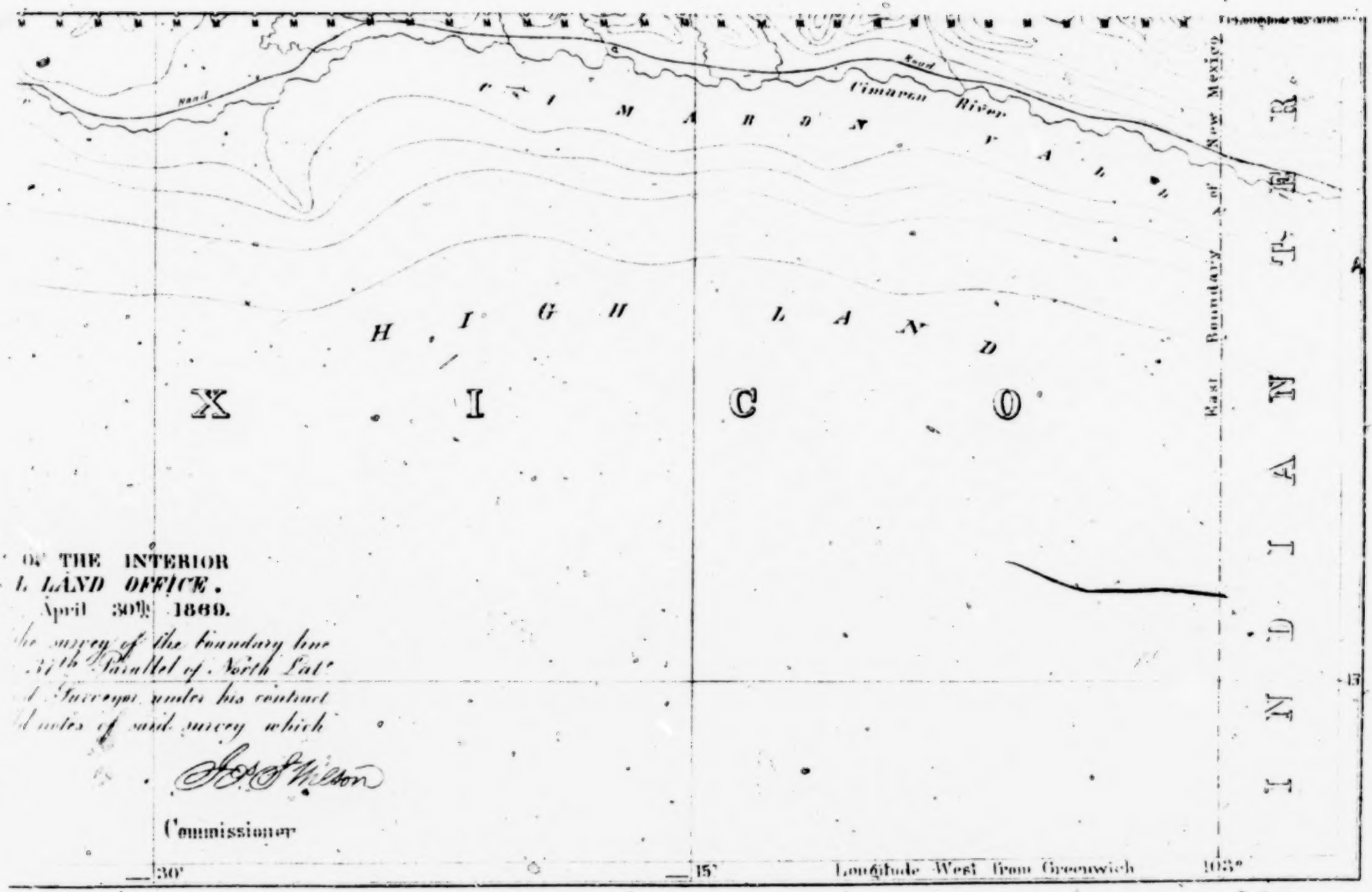
15'

104°

15'

DEPARTMENT OF THE INTE
GENERAL LAND OFFI
April 30th

I hereby Certify that the Map of the survey of th
between Colorado and New Mexico on the 37th Parallel
executed by Chas. V. Darling Astronomer and Surveyor u
of May 22nd 1868 ; in conformity to the field notes of said
have been examined and approved



OF THE INTERIOR
L LAND OFFICE.
April 30th 1869.

he survey of the boundary line
36th Parallel of North Lat.
d Surveyor under his contract
d notes of said survey which

J. J. Wilson

Commissioner

VILLAGE DE LA CASTILLA

PEAK

PEAK

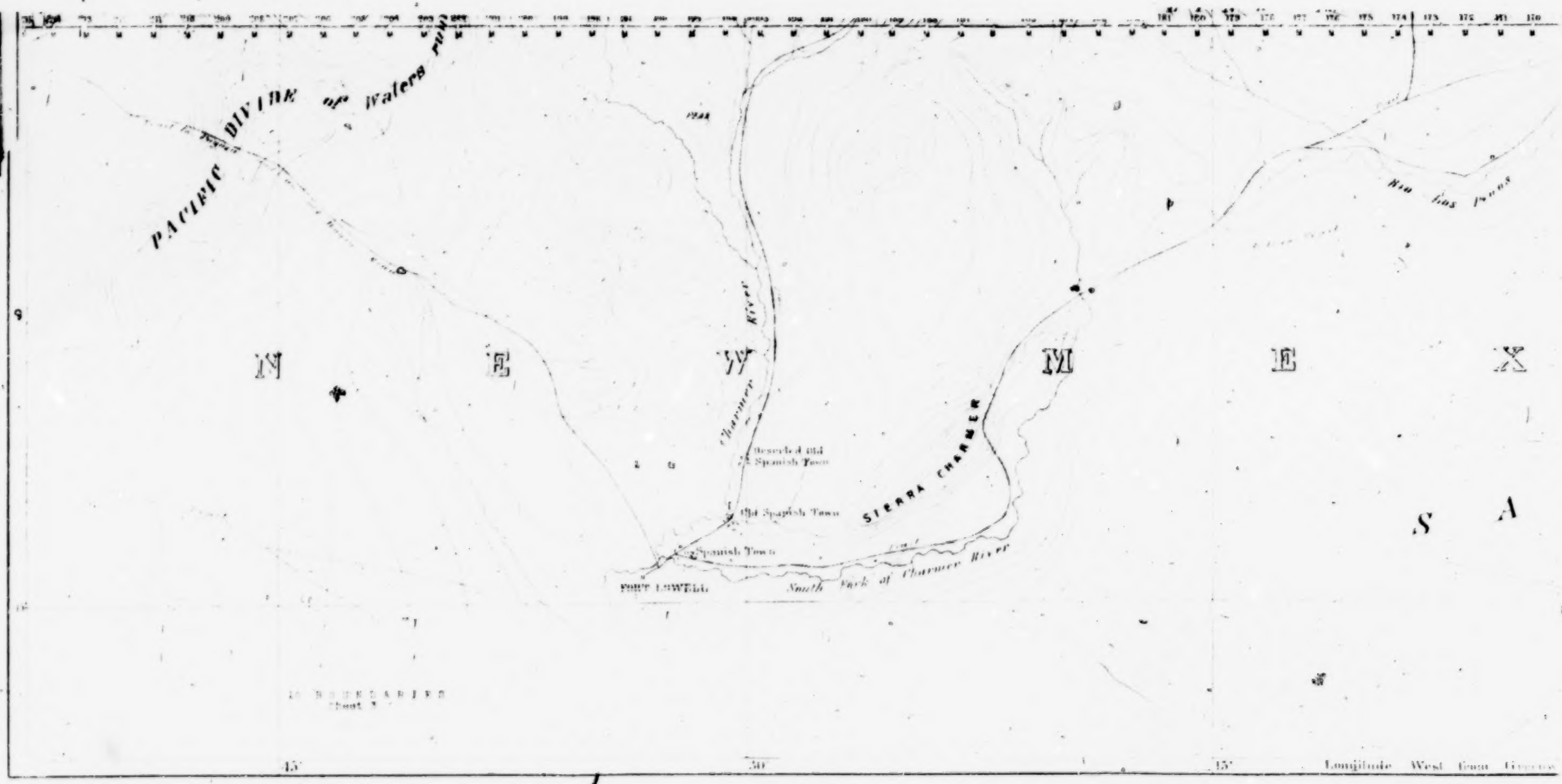
PEAK

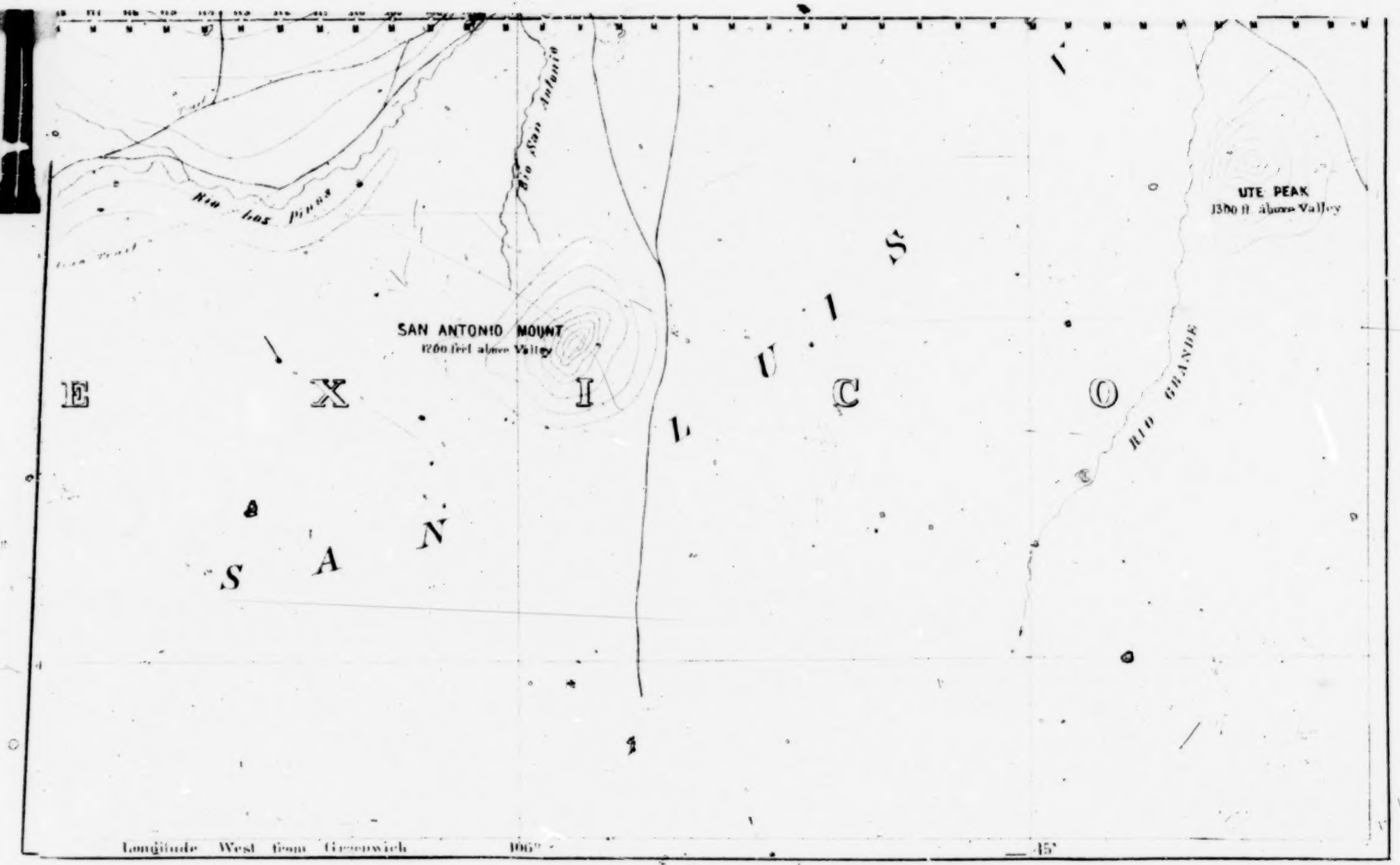
Road

Road

Road

715


PACIFIC DIVIDE or Waters RUN
Charmer River
Deserted Old Spanish Town
Old Spanish Town
Spanish Town
SIERRA CHARMER
Line
FORT LOWELL
South Fork of Charmer River
MEXICO
Longitude West from Greenwich


Rio San Antonio
Rio los Pinos
SAN ANTONIO MOUNT
1200 feet above Valley
UTE PEAK
1300 ft above Valley
RIO GRANDE
E X I C O
S A N
Longitude West from Greenwich
106°
45'

A correct map of the locality might be furnished by the county surveyor, but this must be without expense to the Post Office Department.

All which I certify to be correct and true, according to the best of my knowledge and belief, this 28th day of Sept., 1895.

(Sign full name.) Edgar M. Biggs, Proposed P. M.

I certify that I have examined the foregoing statement, and that it is correct and true, to the best of my knowledge and belief.

(This must be signed by Postmaster at nearest office.)

Martha M. Price, Postmaster, Chrome, Colo

[On left-hand margin.] Be careful to answer the inquiries fully and accurately, or the case will not be acted upon.

[On right-hand margin.] Applications for post offices should be accompanied by petitions of the citizens interested.

(Here follow two diagrams, marked side folio pages 711 and 712)

[fol. 713] COLORADO EX. No. 5.

New Mexico v. Colorado, Orig. No. 17. P. 17 of Testimony. 5 Sheets.
D. O. Morgan, Exr.

4—207

Department of the Interior,
General Land Office,
Washington, D. C., January 20, 1922.

I hereby certify that the annexed photostat copies of plats of Colorado-New Mexico Boundary, 1869, in five sheets, are true and literal exemplifications of the plats of survey to which they relate except reduced scale.

In testimony whereof I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

Geo. R. Wickham, Assistant Commissioner of the General Land Office. (Seal of the United States General Land Office.)

(Here follow Colorado Exhibits Nos. 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, and 19, marked side folio pages 714-731, inc.)

[fol. 732 & 733] IN THE SUPREME COURT OF THE UNITED STATES OF AMERICA

[Title omitted]

Certified Proofs, Evidence, Testimony, Offers, and Proceedings in said cause in said court taken and extended by Henry C. Luther, Examiner, at Post Office Building, City and County of Denver in the State of Colorado, on the Seventeenth, Eighteenth and Nineteenth days of July, A. D. 1922; pursuant to the orders of court and agreements of counsel, all forwarded on this 21st day of September, A. D. 1922, Thru the United States Mail to the Clerk for filing in said cause in said court, Washington, District of Columbia.

[fol. 734] IN THE SUPREME COURT OF THE UNITED STATES OF AMERICA

[Title omitted]

LETTER OF TRANSMITTAL

To the Honorable the Clerk of the Supreme Court U. S. A., Washington, D. C.

SIR: In pursuance of the authority vested in me by the court, I have the great honor to forward to you for filing therein, all the proofs, evidence and proceedings, so far taken by me, as examiner, at Denver, Colorado, and will be pleased to have you duly acknowledge receipt therefor, and further stating that the same has been duly filed in your court in accordance with its order and my certificate thereunder, so that I may evidence of the closing of this particular part of the proceedings.

Truly yours, Henry C. Luther, Examiner.

Address me #302 State Office Bldg., Denver, Colorado.

[fol. 735] [Title omitted]

Previously and on July 3-6, 1922, at Washington, D. C., testimony in said cause, was first taken and transcribed by Examiner Douglas O. Morgan, to which reference is made to indicate complete record to date, July 19, 1922, last day of taking testimony in Denver in the same cause as shown at large infra.

[fol. 736] IN THE SUPREME COURT OF THE UNITED STATES

[Title omitted]

Appearances: Frank W. Clancy, Esq., counsel for the state of New Mexico; Hon. Victor E. Keyes, attorney general of Colorado, and William R. Parsons, assistant attorney general of Colorado, solicitors and counsel for the state of Colorado.

Pursuant to authority of the court and at the place and time hereinafter shown, the parties to the above entitled action, by their respective counsel, offered and adduced the following testimony, exhibits, proofs and proceedings, to-wit:

[fol. 737] [Title omitted]

Testimony, evidence, proofs and proceedings taken at the offices of the United States Surveyor General and the Supervisor of Surveys of the General Land Office, 4th floor, United States Post Office Building, Stout and Eighteenth streets, in Denver, Colorado, on the seventeenth, eighteenth, and nineteenth days of July, A. D. 1922, before Henry C. Luther, examiner, in pursuance of the order of the court and agreement of the parties hereto duly approved by the court, as per the files, and also set out in full in the transcript of testimony made by Douglas O. Morgan at pp. 4, 5, and 6, and therefore not here repeated.

Examiner Henry C. Luther: My oath as examiner faithfully and impartially to discharge and perform the duties devolving upon me is as follows, to-wit:

[fols. 738 & 739] OATH OF EXAMINER—Omitted: printed side page 581 ante.

[fol. 740] Examiner Luther: Are you ready to begin taking testimony gentlemen?

Mr. Clancy: Yes sir.

Mr. Ramsey: I hand you form of oath to be administered to witnesses.

Examiner Luther: We will proceed with Mr. Clancy's witnesses.

[fol. 741] The following oath was administered to each witness, viz:

"You do solemnly swear by the Ever Living God that the testimony you are about to give in the cause wherein the State of New Mexico is plaintiff and the state of Colorado is defendant, in the Supreme Court of the United States, shall be the truth, the whole truth and nothing but the truth."

[fol. 742] Thereupon the plaintiff, the state of New Mexico, to maintain the issues upon its part, introduced the following testimony, to-wit:

[fol. 743] July 17, 1922, 1st day, 2 p. m., proofs commenced.

Afternoon Session.

Mr. Frank W. Clancy: I offer in evidence the notes of the survey made by H. B. Carpenter of the boundary line between Colorado and New Mexico. It is agreed by counsel that as the said notes are set out in the bill of complaint in this cause, and therefore already

necessarily a part of the record, it is not necessary to have them repeated at the present time and place, thus unnecessarily incumbering the record with two copies, but that the copies set out in the bill of complaint may be taken and received as the notes of the Carpenter survey.

Mr. V. E. Keyes: The defendant objects to the introduction of the notes of the Carpenter survey as being immaterial, irrelevant, and incompetent, to any issue in this cause.

Mr. Clancy: I will call Mr. Arthur D. Kidder.

[fol 744] ARTHUR D. KIDDER, called as a witness on behalf of the plaintiff, the state of New Mexico, having been first duly sworn according to law, to testify the truth, the whole truth, and nothing but the truth, in the cause now pending, upon his oath testified in evidence as follows, viz:

Direct Examination by Frank W. Clancy, Counsel for the State of New Mexico.

Q. Mr. Kidder state your name and occupation?

A. A-r-t-h-u-r D. K-i-d-d-e-r. Field surveys of the general land office.

Q. What is the nature of your duties in that employment?

A. I have charge of the field work in the eastern survey district.

Q. Have you ever known a man by the name of H. B. Carpenter, an engineer?

A. I have.

Q. Do you know whether he is living or dead?

A. I do.

Q. Is he still alive?

A. Mr. Carpenter is dead.

Q. Do you know how long since he died, more or less?

A. To the best of my recollection, Mr. Carpenter died about eight years ago.

Q. Did you ever have any connection with the work done by Carpenter in surveying of the boundary between Colorado and New Mexico?

A. I did.

Q. State what it was?

A. I was instructed by the Commissioner of the General Land Office to accompany the astronomical party.

Q. Employed by Carpenter?

A. Yes, to verify the astronomical observations made by the astronomer in the employ of Carpenter.

[fol 745] Q. Who was the astronomer?

A. Augustus MacConnel.

Q. Do you know whether he is living or dead?

A. I do.

Q. Is he alive?

A. Mr. MacConnel is dead.

Q. How long since he died as far as you know?

A. To the best of my recollection he died about six years ago.

Q. Had you had any experience in such astronomical work as that which you assisted Mr. MacConnel?

A. I had.

Q. What experience had you in such work?

A. Mr. MacConnel and I were associated together in making astronomical observations on the Red River in the spring of 1902 we worked together for a period of about three months.

Q. Was that the first work of that kind you had done?

A. That was the first work I had done in the field. I had practice in observatory work prior to that time, but no field work prior to that time.

Q. You had the qualifications necessary for such work as that in which you assisted Mr. MacConnel?

A. Yes sir.

Q. Can you briefly state to the examiner what were your qualifications for such work?

A. During the years from 1895 to 1899 I attended the Rose Polytechnic Institute, where I pursued the course of civil engineering in which I was graduated in the year 1899. Subsequently I took a post graduate course in astronomy at Columbian University, in Washington, D. C., and was given the advance degree of Master of Science and Astronomy. That year's work covered not only the subjects of general astronomy, but also an exhaustive study of mathematical astronomy and applied astronomy, with practical work, also, at the United States Naval Observatory.

[fol. 746] Q. Please state so that the ordinary lay mind can understand it, what was the astronomical work in which you assisted Mr. MacConnel?

A. I assisted Mr. MacConnel and verified his observations and calculations.

Q. State what was the nature of his observations and for what purpose they were made?

A. The purpose of the observations made by Augustus MacConnel, astronomer in charge of the work, was to determine the true parallel, thirty-seven degrees north latitude. In order to accomplish what was desired, a series of eight astronomical stations were located, approximately on the thirty-seventh parallel, at intervals of about fifty miles, on the boundary line between Colorado and New Mexico. At each station a series of observations were made for latitude, in which observations Mr. MacConnel pursued the most approved field methods. His method employed in the field is known as the Talcot method of observation for latitude. Stars, whose known position was obtained from accepted star catalogues, were observed in pairs. One star crossed the meridian north of the zenith, while the companion star was selected to cross the meridian about the same distance south of the zenith. The latitude of the stations could be calculated from each pair of stars. No less than twenty-five pairs of stars were observed at each station. The results were combined so as to obtain an average. The results show the astronomical station to be either north or south of the true thirty-seventh parallel, and the exact amount away from the parallel. From this data al-

calculations are made of the proper adjustment or distance from the stations where the observations were made to the true thirty-second parallel, the monument was then established on the true thirty-second parallel, to control the latitude of the line to be run and established by the surveying party.

[fol. 747] Q. Then these true astronomical monuments were established before the surveying party made the line between the monuments?

A. Yes, sir.

Q. Did you assist MacConnel in making the observations, or did you only verify the results of his calculations?

A. I assisted MacConnel in helping him make the adjustment of the instruments, and particularly in recording the observations and readings made by Mr. MacConnel. During the process of an observation of a pair of stars, it was necessary to note the name of each star, and certain readings of the instrument, also to note the exact astronomical time of observation. Mr. MacConnel, as chief astronomer, made all of these readings, while it was my duty to record them. I assisted MacConnel in making all the calculations of the true latitude of the station as determined by his observations, after which we exchanged places and I conducted a series of observations which Mr. MacConnel recorded. In this way I was both assisting Mr. MacConnel and was verifying the results of his observations.

Q. From your knowledge and experience as an astronomer in such work, what would you say as to the accuracy and certainty of the results obtained by MacConnel with your assistance?

Mr. Keyes: We object to that question as being irrelevant and incompetent.

A. Mr. MacConnel adopted the most approved field methods in making the astronomical observations, and each station is as nearly correct as could reasonably be expected.

Mr. Keyes: We move to strike that as irrelevant and incompetent.

Mr. Clancy: Mr. Kidder, go on with your answer.

Mr. Kidder: Where did I leave off?

[fol. 748] Examiner Luther: "As could reasonably be expected."

Mr. Kidder (continuing): It is my opinion that any of the astronomical stations occupied by MacConnel can be reoccupied and practically the identical results can be obtained by any competent astronomer.

Mr. Clancy: Did you have occasion to know anything about the proof of the work prepared by Carpenter in making the survey of the line between these astronomical stations?

Mr. Kidder: I had occasion to organize a surveying party to retrace Carpenter's line from astronomical station No. 5 to astronomical station No. 6. Astronomical station No. 5 was located near the summit of the Culebra mountains, on the San Francisco pass. Astronomical station No. 6 was located near Trinchera Creek.

Q. What was the retracing of Carpenter's line between these stations?

A. In the fall of 1906.

Q. What results did you find from your retracing?

A. We found as a result of the retracement that my observations for the azimuth of the line between astronomical station No. 5 and astronomical station No. 6, closely verified the azimuth of the line as reported by Carpenter.

Q. Does anything else occur to you in which you can give information regarding the Carpenter survey?

A. The Carpenter survey was executed in accordance with detailed specifications as to the manner in which the observations were to be made, and the manner in which the thirty-seventh parallel of latitude was to be marked at each astronomical station, etc., also as to how the line was to be run between the astronomical stations, the manner of connecting astronomical stations, and the manner of marking the line at intervals of one mile. To the best of my knowledge and belief Carpenter followed his instructions to the letter and his work was as accurate as could be expected under the specific instructions issued to him. There was no detail of the astronomical [fol. 749] observations and calculations but what was given with the utmost care and consideration by astronomer MacConnell and fully verified by me.

Q. In the course of your work have you had occasion to become familiarized with the earlier survey known as the Darling survey?

A. My knowledge of the Darling survey, and of the line and monuments established by him, was only incidental and was obtained only by reading or hearing of the reports of others engaged in making the retracements of the Darling line. I have had no occasion in any capacity to make any retracement of the Darling line.

Mr. Clancy: I think that is all I want to ask Mr. Kidder.

Cross-examination by V. E. Keyes, Attorney General and Counsel for Defendant, the State of Colorado:

Q. Mr. Kidder, you do not regard, do you, that the so-called Carpenter line is a true, precise parallel of latitude?

A. No sir.

Q. How many astronomical stations were located in the so-called Carpenter survey?

A. Eight.

Q. Why is it that the line connecting eight astronomical stations would not make a true, precise parallel of latitude?

A. For the reason that the latitude at one station is more or less affected by inequalities of the mass of the earth's surface at that station. Lines projected east and west from any known astronomical station and carried on a true parallel to the adjoining astronomical station, on the east and west, must necessarily disagree in latitude with the adjoining stations, by whatever amount the individual

sfatio:, may be affected by the inequalities of the mass of the earth's crust at those places.

[fol. 750] Q. Is it not true that the more scientific way to procure a precise parallel of latitude is by the method known as "triangulation" rather than by astronomical methods?

A. Yes, provided that the method of triangulation is sufficiently elaborate to detect and allow for adjustment of all station error at each one of the astronomical stations occupied. We must remember that triangulation alone will not determine the latitude of a line. The triangulation can be used only to connect the astronomical stations. The practical result of the trianguiation method is combining the results of all the stations so that an average result is employed for the whole of the line.

Q. The scientific method of triangulation was not used at all in the Carpenter survey, was it?

A. No sir.

Q. Or by you?

A. No, sir.

Q. What method of determining a precise parallel of latitude is the most approved method of the present day, and what method is recognized by the United States Coast and Geodetic Survey?

A. The method of triangulations in which a large number of astronomical stations are combined.

Q. And that use or method of triangulation would be, would it not, the best means to secure a precise parallel of latitude?

A. A precise parallel of latitude can be obtained and established without the method of triangulation. The method of triangulation is merely one of the ways in which a number of astronomical stations may be combined. A series of astronomical stations may be combined by running transit lines so as to connect the series of astronomical stations. This would be a practical way of establishing a precise parallel of latitude.

Q. This was not done, as I understand it, during the Carpenter survey, was it?

A. No sir; special instructions for the Carpenter survey required that the astronomical monument should be located on the thirty-[fol. 751] seventh parallel of latitude according to the observations at that station, and that all astronomical monuments should be connected and adjusted from one station to another on a plan specified in the instructions issued to Mr. Carpenter. The practical result of the method specified, is a line which is not due east and west at all places, but one which connects a series of astronomical stations, regardless of the station error of any one monument.

Q. Is it not true then that under the instructions received by Carpenter, if carried out, it was impossible for him to run a precise parallel of latitude?

A. Yes sir.

Q. When Carpenter reported to the general land office of the United States was it not found to be defective in several particulars?

A. The report referred to in your question was one made by others than himself, into which I have never examined, nor had occasion to examine.

Q. Were you not sent by the general land office to make corrections of the Carpenter survey?

A. No sir.

Q. Mr. Kidder, do you agree with the following statement made by E. Lester Jones, director of the United States Coast and Geodetic Survey, "In determining latitude by astronomic methods, the principle followed is to determine the angle between a known celestial body, such as the sun or a star, and the observer's zenith. Different instruments are used and different degrees of accuracy are obtained, varying from an error of one or two miles in sextant observations at sea to an error of ten to twenty feet with large instruments on shore. This error of ten to twenty feet must be understood to mean that any one station could be reoccupied and the observed latitude would agree with the preceding latitude within that distance.

"It is usual to conceive of the earth as being marked off into geographical compartments by parallels and meridians which are [fol. 752] smooth curves, properly spaced upon the ellipsoidal surface of the earth. As a matter of fact, the parallels and meridians are uniform in curvature and properly spaced only when located by triangulation and computed upon an ellipsoid which closely fits the shape of the portion of the earth delineated. When located by astronomical methods they are uniform neither in curvature nor in spacing"?

Is that correct?

A. I believe the statement to be correct.

Q. Mr. Kidder, do you agree with the following statement made by the same person, "In astronomical observations for latitude or longitude, the observer's zenith, which serves as a reference point for the angular measures to the sun or star, is determined by the levels on the astronomical instrument for, when the instrument is "leveled", it is in position to measure the zenith distance of a star. These levels, in turn, mark the direction of the force of gravity at that point, or the direction indicated by a plumb-line freely suspended. If, for any reason the plumb-line is not perpendicular to the mean surface, then the position determined astronomically will not be in proper relation to adjacent points not so affected. It has long been known to geographers and geodesists that nearby mountain masses and differences in the density of the earth's crust would so materially affect the direction of the plumb-line that an astronomic latitude or longitude would show a discrepancy of a half a mile or more, in extreme cases, when compared to the mean values obtained by triangulation methods.

"The discrepancies in geographical position of a point, due to the erroneous direction of gravity, are called deflections of the vertical. The magnitude of some of these deflections in the regions adjacent to Colorado and New Mexico will be seen by a comparison with some of the latitudes and longitudes obtained by precise tri-

[fol. 753] angulation which has been reduced to the North American Datum. This North American Datum was adopted as a reference datum for all triangulation in the United States and was so chosen as to bring the continental area of the United States, as a whole, into its proper geographical relation in latitude and longitude. When astronomic latitudes and longitudes are compared to the latitudes and longitudes obtained by triangulation, they show at once the deflections in the vertical and the direction of such deflections"? Do you also concur in that Mr. Kidder?

A. I do.

Q. Now Mr. Kidder do you also agree with the following statement made by the same person. "Taking the region in the vicinity of Colorado Springs (See Page 12, Figure of the Earth and Isostasy from Measurements in the United States), we find that a station in that city has a deflection in a north and south direction of -3".3 while one on Pike's Peak has a deflection of plus 9".96, a difference within a few miles of 1".2, which would correspond to a distance on the surface of the earth of about 129 feet. East of Colorado Springs two stations 60 miles apart exhibit a latitude discrepancy equal to 240 feet while if we compare Pike's Peak with a station 30 miles east of it, we find a comparative discrepancy of 680 feet.

"The entire western part of the United States has such extremes of elevation and so many variations in the density of the earth's crust, that it is very usual to find a 2" or 3" variation, in the deflection of the vertical, corresponding to errors of 200 or 300 feet in distance on the earth's surface, between points only a few miles apart, where such points are determined astronomically. The effect of these deflections are easily seen when we compare the latitudes and longitudes of the North American Datum of some of the state boundary monuments in the western part of the United States with their supposed astronomic positions.

[fol. 754] "A boundary monument on the northern boundary of the state of Kansas is nearly 880 feet north of the 40th parallel while a monument on the southern boundary of the state is over 500 feet south of the 37th parallel, thus making the state a quarter of a mile wider than was intended by its constitutional limits. A boundary monument between Colorado and Wyoming is almost 600 feet too far south when referred to the North American Datum. A monument between South Dakota and Nebraska is about 650 feet too far north and the monument at the northeast corner of Wyoming is over 800 feet too far south. Some of the boundary meridians located by astronomic methods show an even larger divergence from their true positions than do the boundary monuments on parallels. A boundary monument between Colorado and Utah is more than 2200 feet too far west and others have been found as much as 3300 feet from the location indicated as the true one by geodetic methods"?

What do you say of that?

A. I have no knowledge of the field facts referred to in the paragraphs which you have just quoted.

Q. Do you agree with the following statement made by the same official, "One additional effect of these deflections of the vertical is to be noted in the fact that a boundary line located by astronomic methods will form a zigzag line"?

A. I do.

Q. Do you agree with the following statement made by the same person, "It will thus be seen that the incongruities inherent in an astronomic determination of a boundary line are, to a certain extent, outside the power of the observer to correct. It will also be seen that it will be impossible to retrace an old line by such methods unless the same astronomic stations are occupied on the retracing as on the original survey. This will explain, in large part, the reason why successive surveys of a boundary line do not agree."?

A. I agree with the statement in part but not in whole. I will qualify my answer by saying that the last sentence of the paragraph [fol. 755] referred to, which says, "This will explain, in large part, the reason why successive surveys of a boundary line do not agree." This statement is misleading and in a measure incorrect. It is a part of the truth, but not the whole truth. It does not explain the difference in latitude between the Carpenter line and the Darling line.

Q. What line and survey is now recognized by the United States Land Office as the boundary line between Colorado and New Mexico?

A. I do not know.

Q. Is it not true that all public surveys made by the United States Land Office are now closed on the Darling line?

A. I do not know.

Q. Is it not true that this is the only line recognized by the United States Land Office for administrative purposes?

A. I believe that it is.

Q. What would you say as to that line and survey,—the Darling line—if you know, between Colorado and New Mexico, being recognized at the time Colorado became a state in 1876?

A. I do not know, further than that the Darling line was the only line at that time which had been established.

Q. And is the Darling line now, so far as you know, the only line recognized by the United States Land Office for administrative purposes, between Colorado and New Mexico?

A. I believe it is.

Q. Are you familiar with the township surveys in the region of the thirty-seventh parallel, between the one hundred and third and one hundred and ninth meridians?

A. Only in one or two townships.

Q. Is it not true that every township survey in the region of the thirty-seventh parallel between the one hundred and third and one hundred and ninth meridians is now closed on the Darling line or survey?

A. I do not know.

Q. Is it not true that the rule of the United States Land Office pertaining to surveys is the permanency and integrity of surveys [fol. 756] as executed, rather than precision and accuracy?

SIERRA LATIRA

C O L O R

N E W M E

SNOWY PLAIN

Rio Las Animas

Rio Florido

LOW HILLS
covered with Pine timber

Rio las Pinos

California Trail

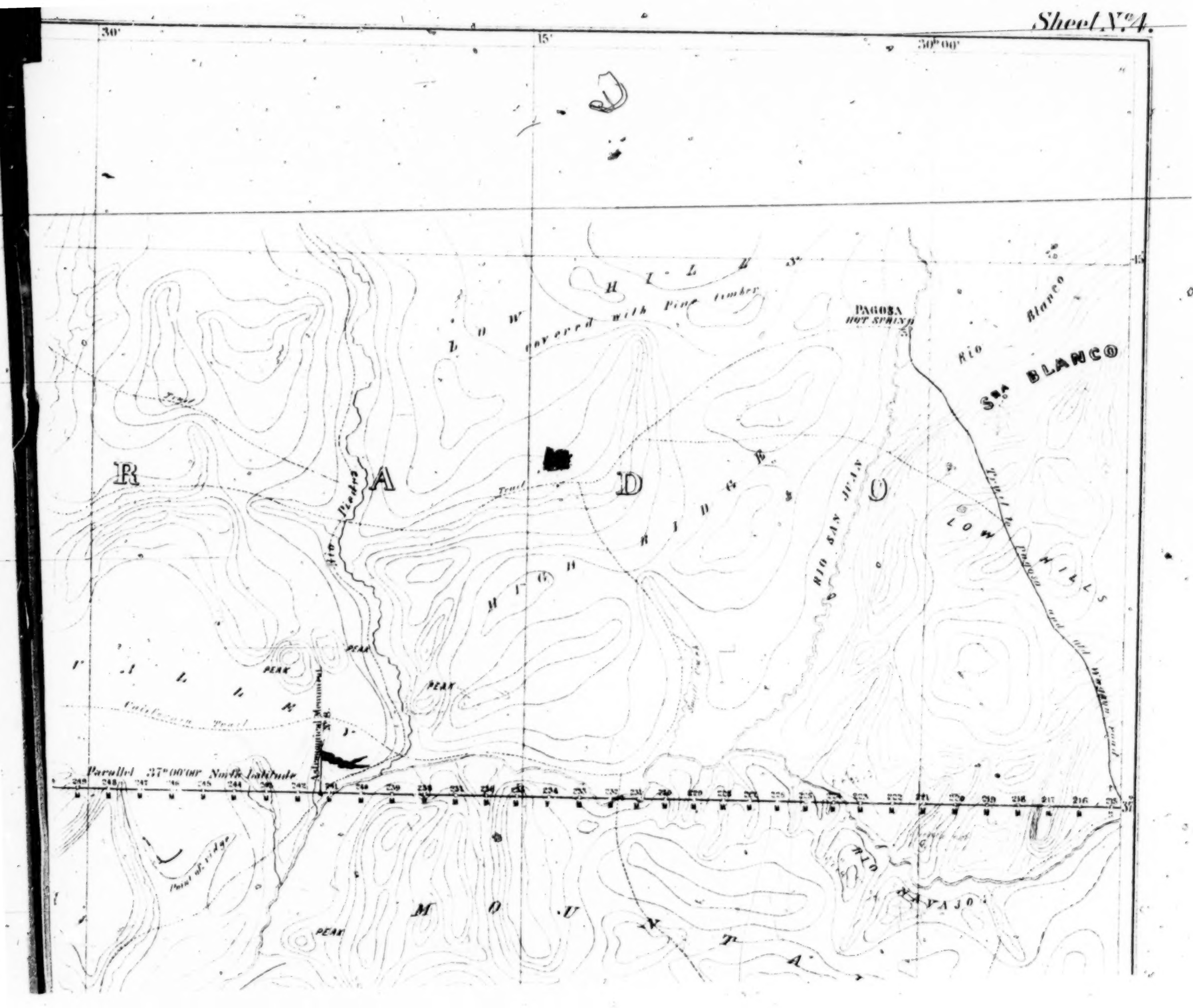
Rio la Matte

Indian Trail

Trail

Trail

Sheet N.º 4.


30'
15'
30°00'
Hills covered with Pine timber
PAGOSA HOT SPRINGS
Rio Blanco
RIO BLANCO
RADO
Rio Piedra
Trail
RIO SAN JUAN
LOW HILLS
Trail to Pagosa and Del Norte
PEAK
PEAK
PEAK
Parallel 37°00'00" North Latitude
Point of ridge
MOUNTAIN
RIO NAVAJO
37

Longitude West from Washington

15'

32° 00'

15'

15'

SIERRA LATRA

HIGH MOUNTS

U T A H

C O L

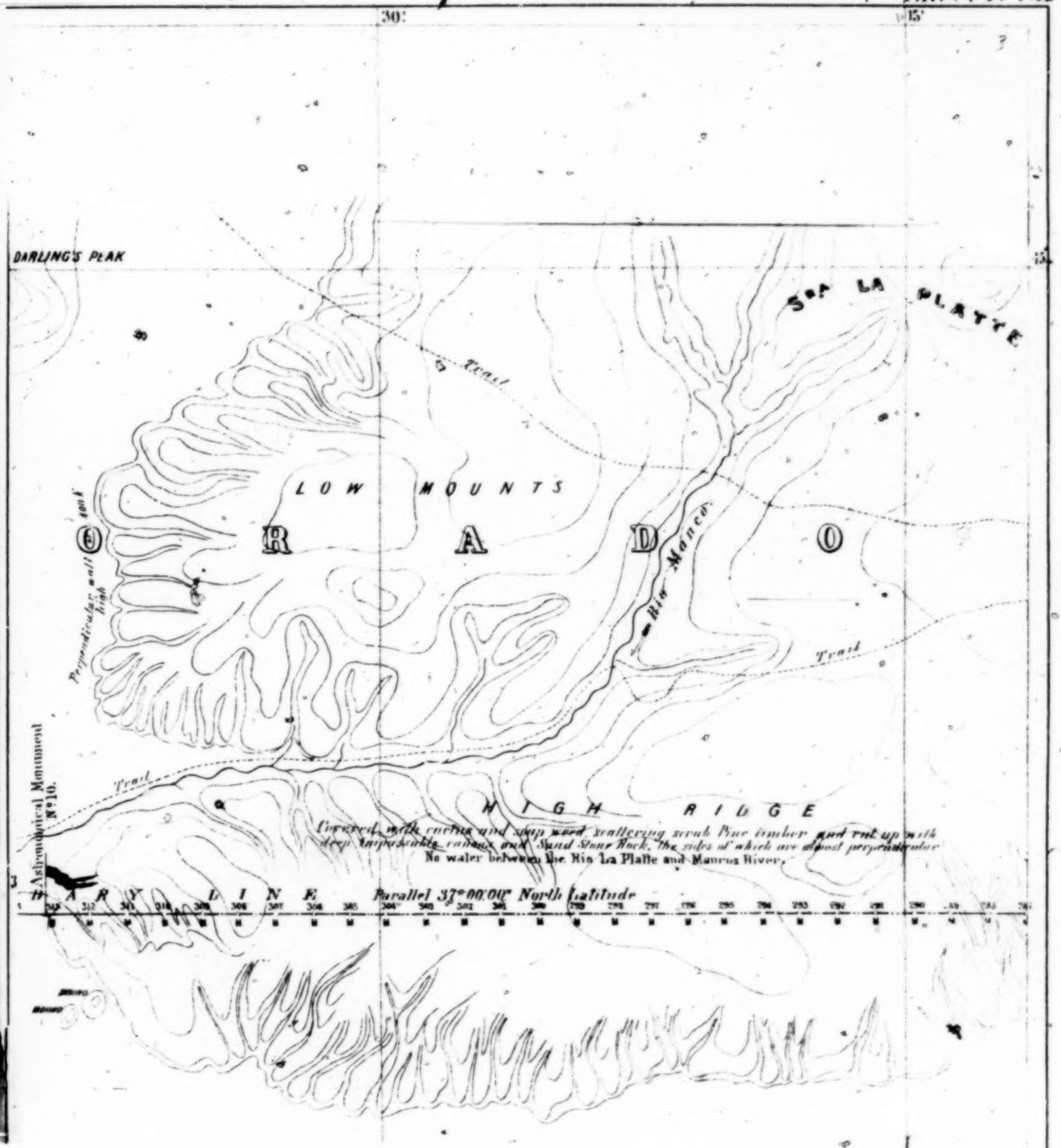
Astronomical Monument Nº 11.

Rio Mancos

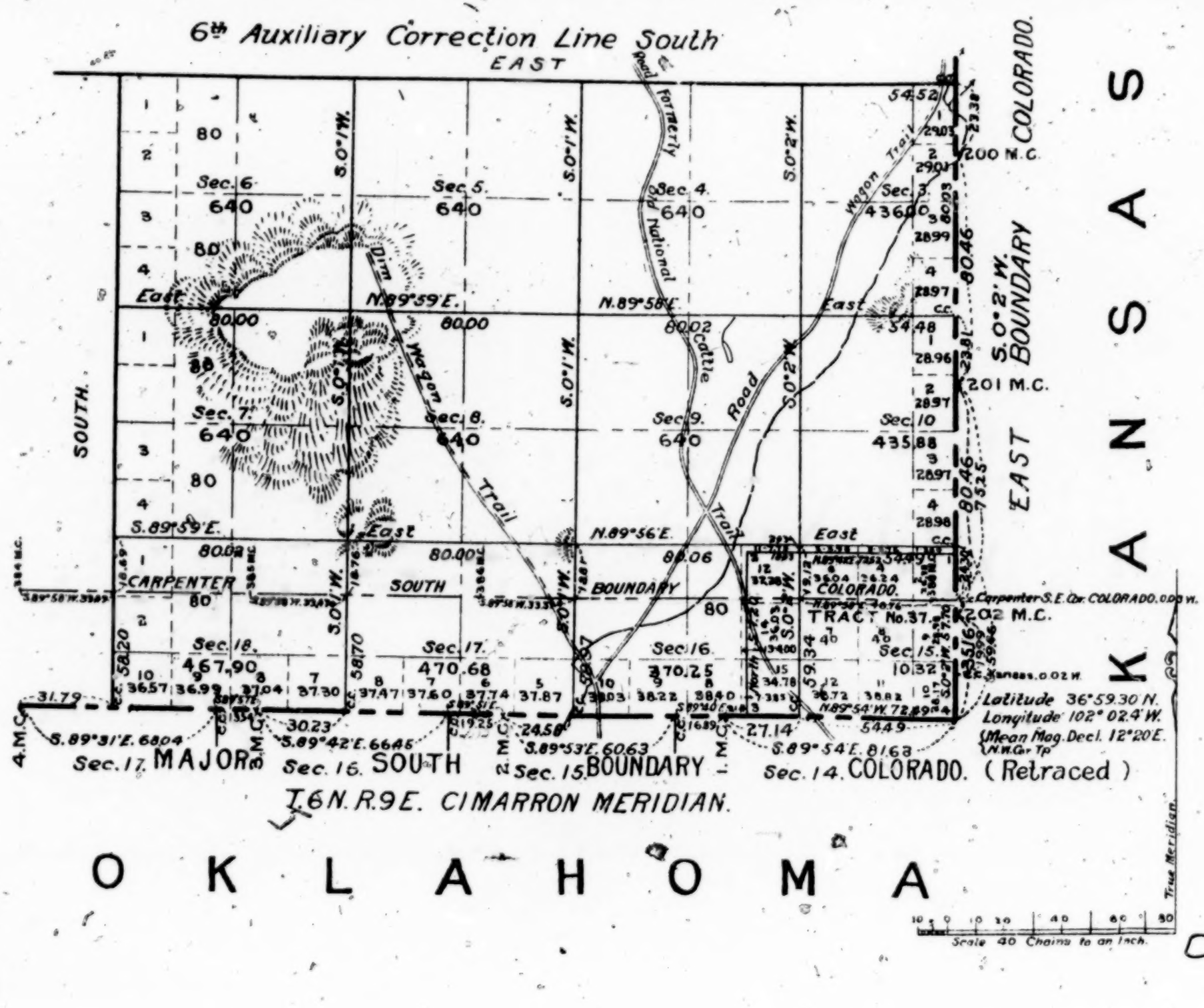
WEST BOUNDARY OF COLORADO

of the Line in 109° West Longitude

OF NEW MEXICO


30'
15'
DARLING'S PEAK
SRA LA PLATTE
Trail
LOW MOUNTS
C O R A D O
Perpendicular wall 100' high
Rio Manco
Trail
Trail
Ashtronomical Monument N°10.
HIGH RIDGE
Covered with cactus and stag weed, scattering scrub Pine timber and cut up with deep impassable cañons and Sand Stone Rock, the sides of which are almost perpendicular
No water between the Rio La Plalle and Manros River.
MARY LINE Parallel 37°00'00" North Latitude

Resurvey Fractional Township No. 35 South, Range No. 41 West of the 6th Principal Meridian, Color



Meridian, Colorado.

TRACT No.	SECTIONS	ENTRY and ENTRYMAN	ORIGINAL DESCRIPTION
37	15:16, T. 35 S. R. 41 W.		School Section 16,
			T. 35 S. R. 41 W.

N E W M E

SAN JUAN

Rio La Plata

Rio Los Animas

Trail to

RIO SAN JUAN

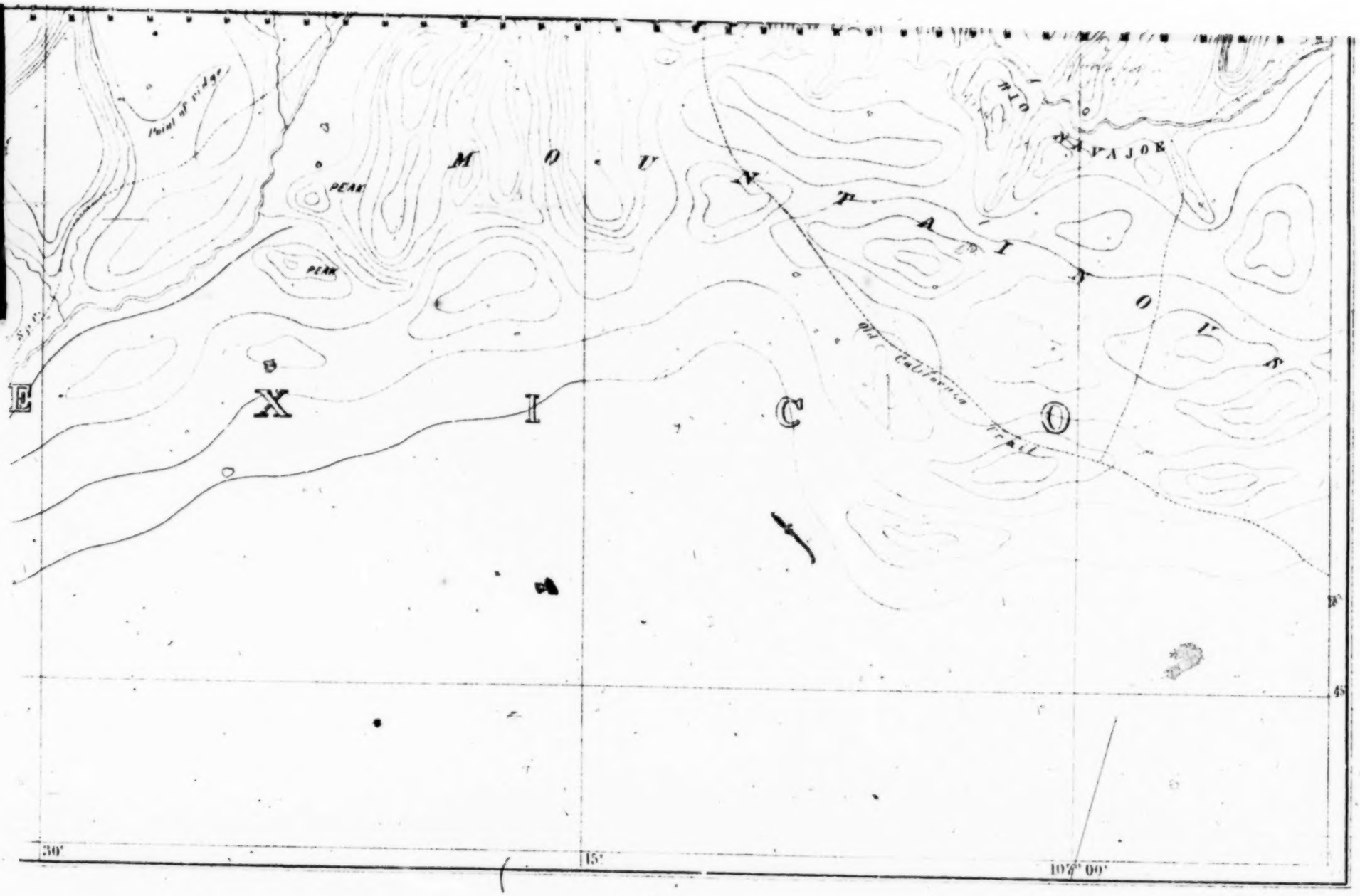
10 BOUNDARIES
Sheet 4

108° 00'

15'

Longitude West from Greenwich

30'


Point of ridge
PEAK
PEAK
M O U N T A I N S
NAVAJOE
Old California TRAIL
E X I C O
36°
15'
107° 00'

ARIZONA

NEW MEXICO

Terminal Point of the Line on 109° West Longitude

WEST BOUNDARY OF NEW MEXICO

SIERRA CARISO

HIGH MOUNTS

15'

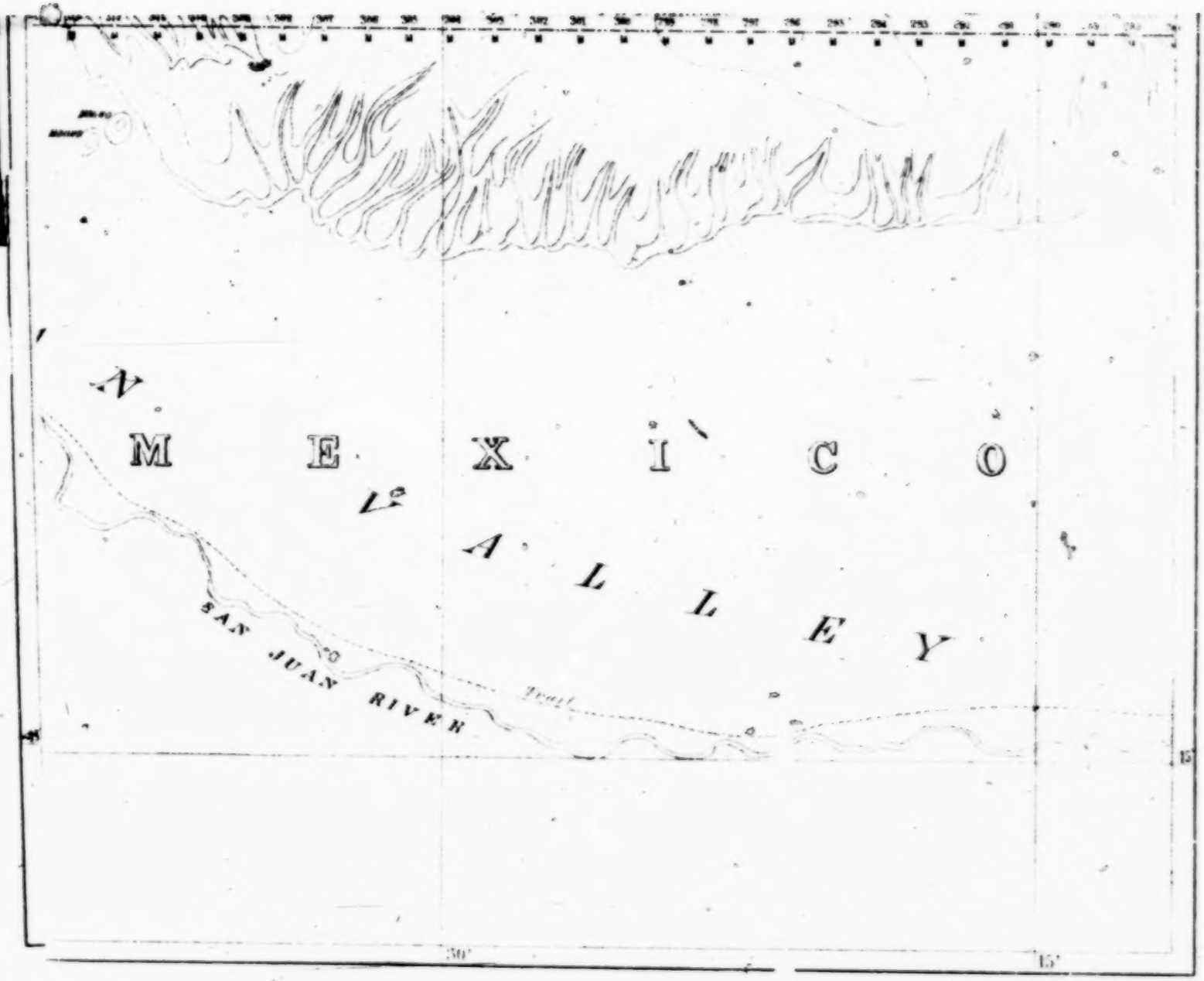
15'

109°-00'

Longitude West from Greenwich

45'

AC BOUNDARIES
Sheet 5


N
M E X i C O
L^o A L L E Y
SAN JUAN RIVER
Trail
30'
15'

Private Land	416.44
Public Land	6031.03
Total number of Acres.	6447.47

Surveys Designated	By Whom Surveyed	No.	Date of Contract	Amount Ms. Chs. Lks.	When Surveyed	
Subdivisions	Arthur D. Ridder and Jay P. Hester	868	April 20, 1908	15 - 46 - 08	Jan. 1-2, 1909	Resurvey.
Connections	" " " "	"	" " "	3 - 21 - 69	" " "	
West Boundary	" " " "	"	" " "		Dec. 22, 1908	"
6th Aux. Corr. Line S.	" " " "	"	" " "		" " "	"
Major South Bdy Coll.	" " " "	"	" " "		" 19 "	9p.

DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Washington, D. C., Jan. 20, 1922.
I hereby certify that this is a true copy of the plat of survey of the lands to which it relates, on file in this office.

Assistant Commissioner

The above Map of Resurvey Fractional Township No. 35 South, of Range No. 41 West of the 6th Principal Meridian in Colorado, is strictly conformable to the field notes of the resurvey thereof on file in this Office, which have been examined and approved.

U.S. SURVEYOR GENERAL'S OFFICE.
Denver, Colorado. November 6th 1909.

A. G. Lewis
Surv. Gen'l.

Resurvey Fractional Township No. 35 South Range No. 42 West of the 6th Principal Meridian

Latitude 37°2'N
Longitude 102°6.4'W
Mag Dec 12°20'E

6TH Auxiliary Correction Line South East

T.34S. R.42W.

Sec 36 T.34S. R.43W

Sec 31

Sec 32

TRACT No. 71

TRACT No. 73

TRACT No. 38

TRACT No. 37

TRACT No. 39

TRACT No. 7

TRACT No. 50

TRACT No. 51

TRACT No. 75

Miles Ranch

Windmill

80.00

RIVER

CIMARRON

SOUTH

SAND HILLS

SHIFTING

CARPENTER

SOUTH BOUNDARY COLORADO

Dirt Road

Sec 1 T.35S. R.43W

Sec 12 T.35S. R.43W

Sec 6 640.44

Sec 5 640.18

Sec 4 640

Sec 3 640

Sec 2 640

Sec 1 640

Sec 7 641.28

Sec 8 640

Sec 9 639.96

Sec 10 640.03

Sec 11 640

Sec 12 640

Sec 18 442.66

Sec 17 445.84

Sec 16 443.42

Sec 15 454.33

Sec 14 459.56

Sec 13 463.72

N89°58'E 80.11

N89°59'W

N89°54'W

West

West

N89°59'W

80.08

80.00

80.04

79.98

79.94

N89°58'E

N89°58'W

N89°55'W

S89°55'W

West

N89°57'W.

80.21

80.14

79.96

80.02

79.94

80.00

S89°58'W 33.69

S89°58'W 33.89

N89°58'E 46.10

S89°58'W 33.87

S89°58'W 33.76

S89°58'W 33.60

S89°58'W 33.49

N89°37'W 49.22

30.25 30.18 30.47 30.8 31.10 31.34 31.58 31.82 32.04 32.26 34.14 34.46 34.75 35.03 35.32 35.58 35.81 36.05 36.28 38.20

TRACT No.

37 38 39 50 51 71 72 73 74 75

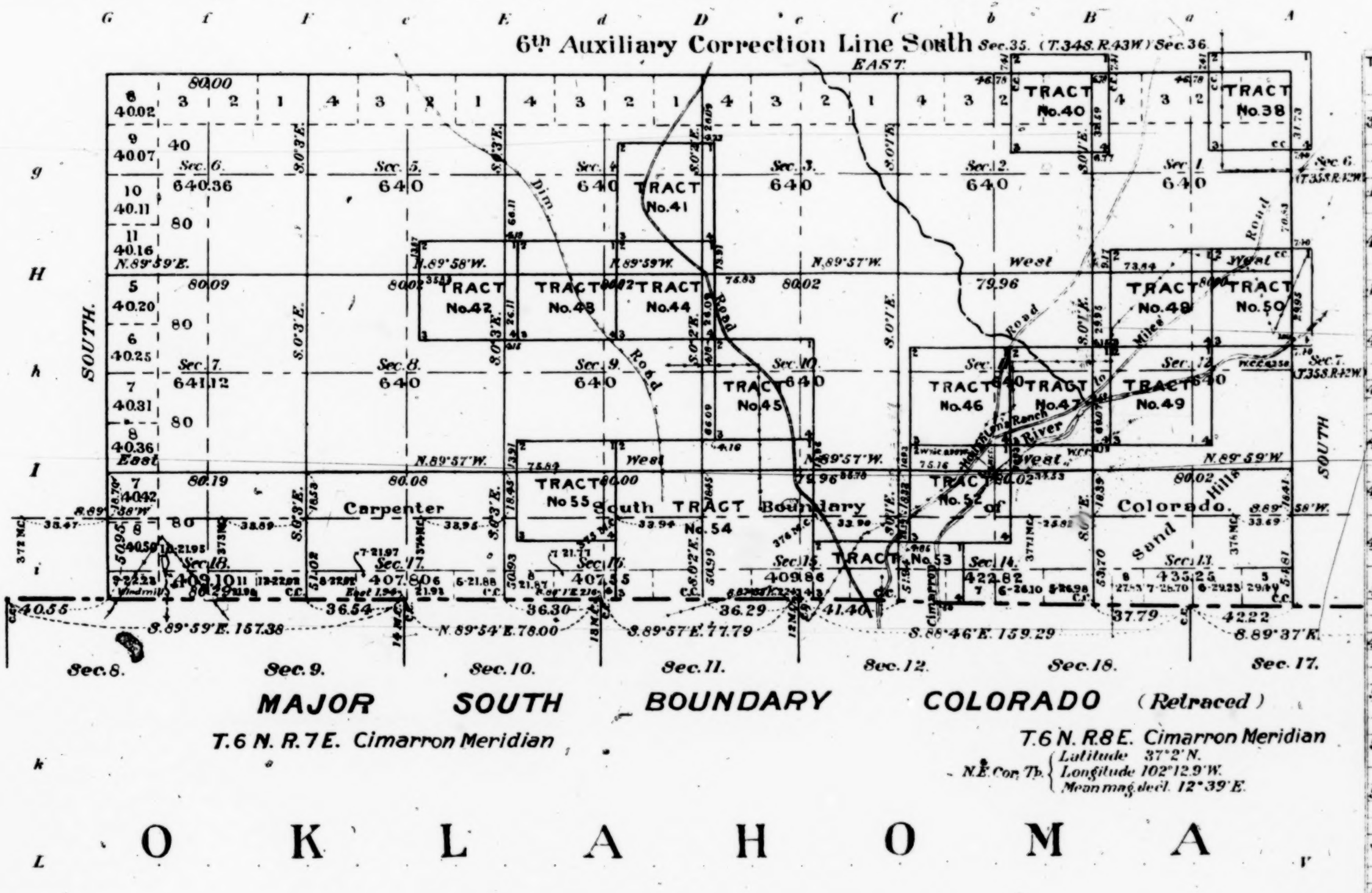
...ian, Colorado.

See Supplemental Diagram

Tract No	Sections	Entry and Entryman	Original Description
37	6, T. 35 S. R. 42 W 31, T. 34 S. R. 42 W	Pre. E William I. Genti	Lots 1 and 2, S½ NE¼ Sec. 1, T. 35 S. R. 43 W.
38	36, T. 34 S. R. 43 W 31, T. 34 S. R. 42 W 1, T. 35 S. R. 43 W 6, T. 35 S. R. 42 W	Pre. E. George M. Brown	Lots 3 and 4, S½ NW¼ Sec. 1, T. 35 S. R. 43 W.
39	6, T. 35 S. R. 42	F. Hd. Samuel L. Florey	SE¼ Sec. 1, T. 35 S. R. 43 W.
50	6, 7 T. 35 S. R. 42 W 1, 12, T. 35 S. R. 43 W	Pre. E. Jefferson D. Walden	NW¼ Sec. 12, T. 35 S. R. 43 W.
51	6, 7, T. 35 S. R. 42 W	Final T. C. Samuel L. Florey	NE¼ Sec. 12, T. 35 S. R. 43 W.
71	5, T. 35 S. R. 42 W 32, T. 34 S. R. 42 W.	Pre. E. Homer V. Guernsey	W½ SE¼ Sec. 31, T. 34 S. R. 42 W., Lots 1 and 2 Sec. 6, T. 35 S. R. 42 W.
72	5, T. 35 S. R. 42 W	Com. to C. E. Frank W. Trask	S½ NE¼, W½ SE¼ Sec. 6, T. 35 S. R. 42 W.
73	5, 6, T. 35 S. R. 42 W. 31, 32, T. 34 S. R. 42 W.	Corn. to C. E. Harry P. Florey	Lots 3, 4 and 5, S. E¼ NW¼ Sec. 6, T. 35 S. R. 42 W.
74	5, 6, T. 35 S. R. 42 W.	Pre. E. Harry P. Florey	Lots 6, 7, E½ S. W¼ Sec. 6, T. 35 S. R. 42 W.
75	9, 10, 15, 16 T. 35 S., R. 42 W.		School Section 16, T. 35 S. R. 42 W.

Resurvey

Fractional Township No. 35 South, Range No. 43 West of the 6th Principal Meridian, Colorado.



OKLAHOMA

See Supplemental Diagram

Tract No.	Sections	Entry and Entryman	Original Description
	1. T.35 S. R. 43 W.		
38	6, T.35 S. R. 42 W.	Pre E.	Lots 3-4 and S½ NW¼
	31, T.34 S. R. 42 W.	George N. Brown	Sec 1, T.35 S. R. 43 W.
	36, T.34 S. R. 43 W.		
40	1-2, T.35 S. R. 43 W.	Pre E.	Lots 3-4 and S½ NW¼
	35-36, T.34 S. R. 43 W.	Frank Thexler	Sec 2, T.35 S. R. 43 W.
41	3-4, T.35 S. R. 43 W.	Pre E.	S.W. ¼ Sec. 4,
		Lucy A. Brown	T. 35 S. R. 43 W.
42	4-5-8-9, T.35 S. R. 43 W.	Pre E.	N.W. ¼ Sec. 8,
		William A. Warren	T. 35 S. R. 43 W.
43	4-9, T.35 S. R. 43 W.	Pre E.	N. E. ¼ Sec. 8,
		Theodore L. Johnson	T. 35 S. R. 43 W.
44	3-4-9-10, T.35 S. R. 43 W.	Pre E.	N.W. ¼ Sec. 9,
		James S. Barlon	T. 35 S. R. 43 W.
45	10, T.35 S. R. 43 W.	Pre E.	S. E. ¼ Sec. 9,
		Richard F. Brown	T. 35 S. R. 43 W.
46	11, T.35 S. R. 43 W.	Pre E.	S.E. ¼ Sec. 10,
		Charles Witherbee	T. 35 S. R. 43 W.
47	11-12, T.35 S. R. 43 W.	Pre E.	S.W. ¼ Sec. 11,
		William C. Fair	T. 35 S. R. 43 W.
48	1-12, T.35 S. R. 43 W.	Pre E.	N.E. ¼ Sec. 11
		Charles W. Finley	T. 35 S. R. 43 W.
49	12- T.35 S. R. 43 W.	Final Hd. C.E.	S.E. ¼ Sec. 11
		Julius Mattsen	T. 35 S. R. 43 W.
50	1-12, T.35 S. R. 43 W.	Pre E.	N.W. ¼ Sec. 12
	6-7, T.35 S. R. 42 W.	Jefferson D. Walden	T. 35 S. R. 43 W.
52	11-14, T.35 S. R. 43 W.	Pre E.	N.E. ¼ Sec. 15
		James Reed	T. 35 S. R. 43 W.
53	14-15, T.35 S. R. 43 W.	F. Hd. Ctf.	Lots 2-3-4 Sec. 15
		Frank C. Applegate	T. 35 S. R. 43 W.
54	9-10 15-16, T.35 S. R. 43 W.		School Section T. 36 S. R. 43 W.
55	9-16, T.35 S. R. 43 W.	Final T.C.	N.E. ¼ Sec. 17
		Alfred J. Harman	T. 35 S. R. 43 W.

Resurvey

Fractional Township No. 35 South, Range No. 44 West of the 6th Principal Meridian, Colorado.

6th Auxiliary Correction Line South

EAST

SOUTH

SOUTH

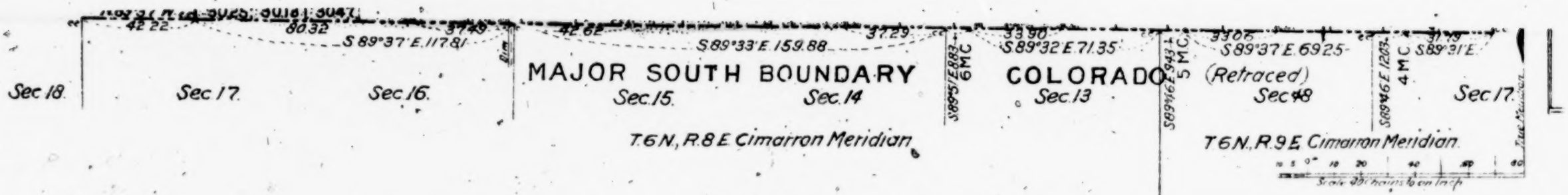
SOUTH

See Supplemental Diagram

TRACT Nº	Sections	Entry and Entryman	Original Description
37	11, T. 35 S., R 44 W.	H. Saml D. Shugart	S.E.¼ N.W.¼ S.W.¼ N.E.¼ N.W.¼ S.E.¼ N.E.¼ S.W.¼ Sec. 11 T. 35 S. R. 44 W.
38	8, 9, 16, 17, T. 35 S., R 44 W.		School Section 16. T. 35 S., R. 44 W.
39	7 and 18 T. 35 S., R 44 W.	Pre. E. Richard F. Cole	N.E.¼ Sec. 18, T. 35 S., R. 44 W.
40	7/18, T. 35 S. R 44 W. 12/13 T. 35 S., R 45 W.	Pre. E. Thomas H. Cole	N.W.¼ Sec. 18, T. 35 S., R. 44 W.

SOUTH

Tp { Latitude 37° 2' N.
Longitude 102° 19.4' W.
Mean mag. decl. 12° 30' E.



OKLAHOMA

Public Land 8871.55
Private Land 1525.87

Total number of Acres 10397.42

Surveys Designated	By Whom Surveyed	No	Date of Contract	Amount Mls.	Amount Chs.	Amount Lks.	When Surveyed	
E and W Township Lines	Arthur D Kidder and Jay P Hester	863	April 20 1908.				Nov 27, Dec 22, 1908	Resurvey.
6th Aux Corr Line South	" " " " " "	"	" " "				Dec 20-21, "	"
Major South Bdy Co'o.	" " " " " "	"	" " "				Nov 26, Dec 19, "	Retracement
Subdivisions	" " " " " "	"	" " "	25	43	20	Dec. 28-30, "	Resurvey
Connections	" " " " " "	"	" " "	5	32	45	" " "	

G.E.H. Comp
C.W.S. Orig.

The above Map of

Resurvey Fractional Township No 35 South of Range No 42 West of the 6th Principal Meridian, in Colorado, is strictly conformable to the field notes of the resurvey thereof on file in this office, which have been examined and approved.

Surveyor General's Office,
Denver, Colorado November 6th 1909.

W. G. Lewis
Surv. Genl.

DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Washington, D. C., Jan. 20, 1922
I hereby certify that this is a true copy of the plat of survey of the lands to which it relates, on file in this office.

Assistant Commissioner.

720

O K L A H O M A

M

m

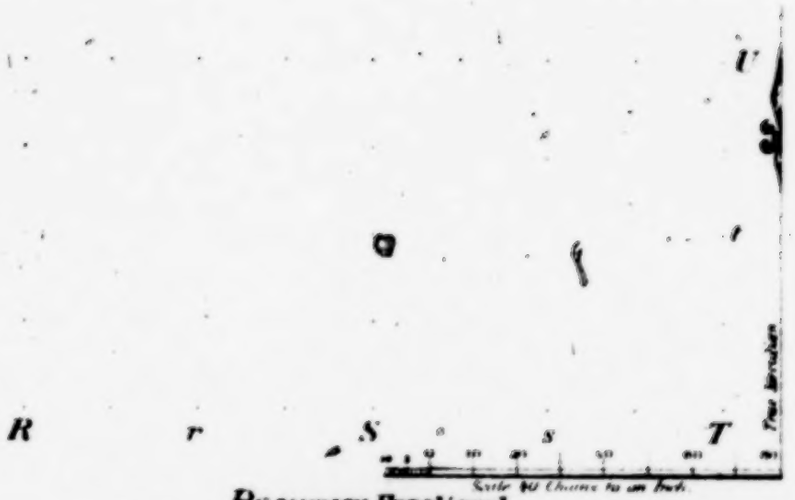
Public Land 7390.13
Private Land 2783.73

N n O o P p Q q R

Total number of Acres 10173.86

Surveys Designated	By Whom Surveyed	No	Date of Contract	Amount of Surveys M Ch. Lks.	When Surveyed	
East and West Township lines	Arthur D. Kidder and Jay P. Hester	863	April 20, 1908		Nov. 24-27, 1908	Resurvey
Subdivisions	" " " "	"	" " " "	25 - 18 - 96	Dec. 20-24, "	"
Connections	" " " "	"	" " " "	6 - 01 - 28	" " " "	"
6th Aux. Corr. Line S.	" " " "	"	" " " "		Nov. 26-27 "	"
Major South Bdy Okla.	" " " "	"	" " " "		" 23-26 "	Retracement

Whyte.



Resurvey Fractional

The above Map of Township No. 35 South of Range No. 43 West of the 6th Principal Meridian in Colorado, is strictly conformable to the field notes of the survey thereof on file in this Office, which have been examined and approved.

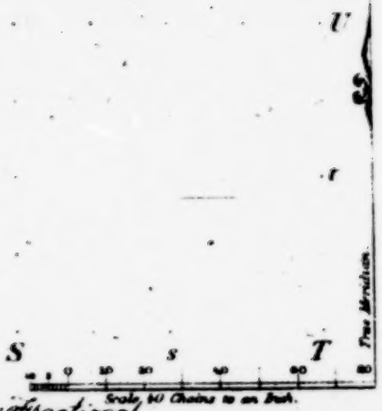
Surveyor Generals Office.
Denver Colo. November 8th 1909

W. J. Lewis
Sur. Gen.l

DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Washington, D. C., Jan. 20, 1922.
I hereby certify that this is a true copy of the plat of survey of the lands to which it relates, on file in this office.

Assistant Commissioner.

721



Public Land 9149.11 A.
Private Land 945.26 A.
} Total number of Acres 10094.37

Survey Designated	By Whom Surveyed	Date of Contract No.	Amount of Survey M. Ch.s D.s	When Surveyed	
E. Township line	Arthur D. Hidder and Jay. P. Hester	863 April 20, 1908		November 24, 1908.	Resurvey
Subdivisions	" " " "	" " " "	25 - 11 - 65	December 1-5, "	"
Connections	" " " "	" " " "	6 - 11 - 55	" " " "	"
6th Aux. Cor. line South	" " " "	" " " "		November 24, "	"
5th Aux. Guide Mer. West	" " " "	" " " "		" 17, "	"
Major South Bdy. Colo	" " " "	" " " "		" 16-23 "	Retracement

Resurvey Fractional

The above Map of Township No. 35 South of Range No. 44 W. 6th Principal Meridian, in Colorado, is strictly conformable to the notes of the survey thereof on file in this Office, which have been examined and approved.

Surveyor Generals Office
Denver, Colo. November 5th 1909

W. E. Lewis
Sur. Gen.

Resurvey Fractional

The above Map of Township No. 35 South of Range No. 44 West of the 6th Principal Meridian, in Colorado, is strictly conformable to the field notes of the Resurvey thereof on file in this Office, which have been examined and approved.

Surveyor Generals Office.
Denver, Colo. November 5th 1909

W. G. Leve
Surv. Gen'l

DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Washington, D. C., Jan. 20, 1922.
I hereby certify that this is a true copy of the plat of survey of the lands to which it relates, on file in this office.

George Tukeam
Assistant Commissioner

722.

Mr. Clancy: I object to the question as not being sufficiently definite or specific on the question of surveys, the subject in question.

Mr. Keyes: Answer the question?

Mr. Kidder: The rule of the general land office as understood by me is that of accuracy and precision in the establishment of a line, together with permanency and integrity of the line as monumented, after said line has been duly approved by the proper authorities.

Mr. Keyes: Is it not true that there is not probably any precise or accurate parallel of latitude established as the boundary as between any state?

Mr. Kidder: I do not know.

Mr. Keyes: If the Carpenter survey were substituted for the Darling survey would it not affect the boundary between Oklahoma and Kansas, as well as that between Colorado and New Mexico?

Mr. Kidder: I believe the same questions of law are involved in both cases.

Mr. Keyes: You may ask Mr. Ramsey.

Further cross-examination conducted by Wm. R. Ramsey, Assistant Attorney General and also of counsel for defendant, the State of Colorado:

Q. Mr. Kidder is it not true, referring to the Carpenter line determined by astronomical observations, as you have stated, that such stations could not be connected by a straight line exactly east and west, owing to deviations in the mass of the earth's surface;—is that not true?

A. It is.

[fol.757] Q. Mr. Kidder, is it not true that a true parallel of latitude must be a line due east and west at all points?

A. It is, but it must be remembered that separate observations along the line would not show the same direction of true east and west, because any one observation would be affected by inequality of the mass of the earth's surface at that point, and that will be noted in determining the direction of a line as well as in the observation for latitude.

Q. Well now then, Mr. Kidder, in stating what is necessary in order to constitute a true parallel of latitude, does the Carpenter line qualify in the respect.

A. The Carpenter line qualifies according to the specifications laid down by the general land office, but not according to the specifications laid down by the United States Coast and Geodetic Survey.

Q. Now explain in what way, and to what extent, that the Carpenter line failed to qualify with the requirements of establishing lines by the United States Coast and Geodetic Survey,—in what way, and to what extent?

A. The Carpenter line, the thirty-seventh parallel of latitude, fails to qualify with the specifications of the United States Coast and Geodetic Survey, in that the line is not at every point, a due east and west line, and the latitude of the line is not a true marking of the thirty-seventh parallel of latitude, according to the average

determination of the eight astronomical stations combined into one result. The Carpenter line connects the several astronomical stations, each one correct in itself, but as explained, the line does not have a uniform east and west direction.

Q. Could you state what probably would be the variation between the Carpenter line and the true line established by geodetic methods?

A. The average difference would be zero. Part of the Carpenter [fol. 758] line may be considered slightly north of the true geodetic thirty-seventh parallel of latitude; part of the Carpenter line may be considered to be a slight distance south of the true thirty-seventh parallel of latitude, as determined by geodetic methods. There would be as much correction to the south probably as to the north, so that taken on an average, the adjustment to the south would equal the adjustment to the north. In my opinion the maximum adjustment at any one point, could not possibly exceed six chains, or approximately four hundred feet.

Q. As a matter of fact the line as established by Carpenter, in some places would be too far north, and in other places would be too far south of a true parallel line?

A. Yes, sir.

Q. Has the Carpenter survey ever been recognized or accepted by any competent authority of your own knowledge as the southern boundary line?

A. That would be a matter of record if there is any such acceptance.

Mr. Clancy: That calls for Mr. Kidder's opinion as to what is competent authority; that is a matter he is not qualified as an expert to testify concerning.

Mr. Kidder: Now continuing with my answer: the last was what?

Examiner Luther: "That would be a matter of record if there is any such acceptance."

Mr. Kidder: I do not know.

Mr. Ramsey: Now Mr. Kidder refreshing your recollection again, is it not true, that after the Carpenter survey was reported to the Commissioner of the General Land Office of the United States, that you were sent to go over the field to correct certain errors, that were pointed out in instructions given to Mr. Carpenter himself?

Mr. Kidder: No sir.

[fol. 759] Mr. Ramsey: Is it not a fact that Carpenter failed to follow instructions given him by the General Land Office of the United States in making this survey, in at least some particulars?

Mr. Kidder: Not that I know of.

Examiner Luther: If agreeable to counsel we will take an adjournment until 9:30 a. m., Tuesday, 18th July, 1922, and inasmuch as Mr. Kidder is required for further testimony he will appear and continue the same at that hour.

Mr. Kidder: Yes sir.

(4 20 p. m.)

Second Day, Tuesday, 18th July, A. D., 1922, proofs continued

Forenoon Session

(9:30 a. m.)

Examiner Luther: Are you ready to proceed, gentlemen?

Mr. Clancy: While I think of it I wish to have the examiner make notation that the State of New Mexico desires two complete copies of the evidence taken at Denver. Send bill to the State of New Mexico at Santa Fe.

Mr. Keyes: We will also want two carbon copies.

Mr. Ramsey: I will call Mr. Kidder again.

Mr. ARTHUR D. KIDDER resumed the stand and further testified.

Mr. Ramsey (continuing): Are you the same Arthur D. Kidder who was mentioned by the Commissioner of the General Land Office in a letter dated September 9, 1903, to Mr. H. B. Carpenter?

Mr. Kidder: Yes sir.

Q. And in that letter is it not stated that you were instructed to go to astronomical station No. 6 and by astronomical observation determine its location as to latitude?

A. Yes sir.

Q. And in that communication did not the Commissioner state [fol. 760] to Carpenter "that it is surmised you placed this monument where it is thru misunderstanding of your instructions?"

A. If that is stated.

Mr. Clancy: It is of record anyhow.

Mr. Ramsey: It is stated here, "it is surmised you placed this monument where it is thru misunderstanding of your instructions." You were instructed, were you not, to go to the field as examiner of surveys and look over the work done by Carpenter between the fifth and sixth astronomical stations,—were you not?

Mr. Kidder: Yes sir, that is correct.

Mr. Ramsey: Were you to examine or look over any other part of the Carpenter line?

Mr. Kidder: I was required to test the latitude of the southeast corner of Colorado.

Q. Anyhow this work that was done by Carpenter was erroneous to the extent that the Commissioner of the General Land Office sent you to examine his work,—is that correct?

A. No sir, that is not correct.

Q. Is it not correct that the Carpenter survey was erroneous in several particulars?

A. No sir; the Carpenter survey was executed strictly in accordance with the special instructions issued to him, and as understood by him.

Q. At the time the Carpenter survey was made, was it the south boundary of Colorado?

A. I do not understand your question.

Q. At the time the Carpenter survey was made, where was the south boundary of Colorado?

A. I understand your question to be one which calls for legal interpretation or inference which I am unable to state.

Q. As a matter of fact you know that there had been an original boundary line established, do you not?

A. I knew about the Darling line, yes sir.

[fol. 761] Q. Was that the line at the time Carpenter made his survey? At that time what was the boundary, the southern boundary line?

Mr. Clancy: That calls for a conclusion that the witness is not qualified to answer.

Mr. Ramsey: That is a question of fact.

Mr. Clancy: The fact is that the boundary was on the thirty-seventh parallel. I object to the question as one not a proper one for this witness to answer. I think the witness can take care of himself about that.

Mr. Ramsey: There is no doubt of that. What is the answer?

Mr. Kidder: What is the question, again, please?

Mr. Ramsey: Repeat the question Mr. Examiner.

Examiner Luther: The last question by Mr. Ramsey was: "What was the line at the time Carpenter made his survey? At that time what was the boundary, the boundary line?" And Mr. Ramsey further added: "What is the answer?"

Mr. Kidder: I can only state that for administrative purposes, as far as I know, the Department had recognized the Darling survey prior to the Carpenter survey.

Mr. Ramsey: Recognized it as the southern boundary of Colorado?

Mr. Kidder: Yes sir.

Q. Is it not a fact that Mr. Carpenter's instructions and his contract with the United States were, that he was to resurvey, remark, and reestablish the boundary between Colorado, and the territories of New Mexico and Oklahoma?

A. Yes sir.

Q. Did Carpenter resurvey, remark, and reestablish the Darling line?

A. No sir.

Q. Is it not true that what Carpenter did, was, instead of retracing, restoring, and remarking of the originally established line, as already fixed by Darling, to make a new and independent line?

A. Yes sir.

[fol. 762] Q. Then he did not follow his instructions, did he?

A. Yes sir. The special instructions set forth in detail the manner in which Carpenter was required to resurvey, reestablish and remark the boundary line between Colorado and the territories of New Mexico and Oklahoma.

Q. Is it not the duty of a surveyor who has been instructed to resurvey, remark, restore, and reestablish a line, to follow the original survey, or line, wherever it can be found and traced?

A. That depends on the nature of the resurvey. There are two types of resurvey: I will answer in response to that question, that generally where rights have attached to an old boundary, that the surveyor will be instructed to restore the line in its original position. However, where no rights have attached to the former boundary, or where the former line has not in every way been approved and accepted by competent authority, and it is certain thru examination that the old line is grossly defective, and that it was not located in the beginning where intended, or where there is uncertainty in regard to the identification of the old line, there are many instances on record where it will be found that the surveyor is instructed to destroy the old line, and run a new line in correct position.

Mr. Ramsey: I move to strike out all of that part of the answer which does not answer my question.

Mr. Clancy: That motion whenever it is brought up for action will be resisted by the plaintiff on the grounds that all of the answer is quite pertinent to the question.

Mr. Ramsey: According to the practice in surveying, are there not two methods of making surveys, one known as the dependent method, and the other known as the independent method?

Mr. Kidder: What is that question again?

Mr. Ramsey: Is it not the practice in surveying to use two methods: one known as the dependent method, and the other as the independent method: That is my question?

[fol. 763] Mr. Kidder: The question is one which cannot be answered by an engineer for the reason that the question apparently refers to the subject of surveying in general, but bears particularly upon the subject of resurvey.

Mr. Ramsey: I will make matters clearer by asking another question: I mean by dependent survey, by dependent method, where a survey has previously been made, and there is a resurvey of the line to be made? That is what I mean in the question, by asking you regarding the dependent method?

Mr. Kidder: In response to your question I would like to read into the record the definition for dependent resurvey and the definition for independent resurvey. It would be clearer than any answer I can give.

Q. Is it impossible to answer my question?

A. Scarcely, as the question does not show a sufficiently clear grasp of the subject to make it possible to answer it.

Q. Then where a survey has previously been made, and there is to be a resurvey of the line, would that fall under the head of a dependent or independent method?

A. It depends on the existing facts.

Q. Under that particular state of facts would that be a dependent or an independent?

A. Carpenter's instructions called for an independent resurvey——

Q. What would that survey be——?

Mr. Clancy: Do not interrupt him. Let him first state what he has to say.

Mr. Ramsey: Point out in the instructions where it calls for an independent resurvey?

Mr. Kidder: I will have to read the whole of the instructions into the record.

Mr. Clancy: They are already in the record. That will not be necessary.

(Witness hunts for and finds instructions referred to but did not read them at this point).

[fol. 764] Mr. Kidder (continuing): In particular it is clear——

Mr. Clancy: Referring to the particular instructions there is also a copy of them in that book, but only refer to them by referring to the printed pages in the complaint.

Mr. Kidder: Mr. Examiner, will you pick up my answer again?

Examiner Luther: You had stated, "In particular it is clear——."

Mr. Kidder: In particular it is clear that paragraphs two, three, four, five, six, seven, eight, and nine specify an independent resurvey, and in the third from the last paragraph of the special instructions it reads, "all evidences of corners and monuments set by Darling on the south boundary line of Colorado will be carefully obliterated." That can mean nothing more or less than an independent resurvey.

Mr. Ramsey: Resurvey of what?

Mr. Kidder: Of the south boundary of Colorado.—May I qualify my answer?—Along——

Mr. Ramsey: That answers my question.

Mr. Kidder: I think I should complete my answer.

Mr. Clancy: Complete your answer Mr. Kidder.

Mr. Kidder: —Along the thirty-seventh parallel north latitude.

Mr. Ramsey: Have you any other explanation to make of the meaning of a dependent survey?

Mr. Kidder: Yes sir. To make the subject clear, the process known as dependent resurvey is one used for the identification and the remarking of an original survey, where rights have attached to the original line, and where there is sufficient evidence of the monuments to serve as a controlling basis for the remarking of the original survey.

[fol. 765] Q. Now referring to the independent method of survey, as I understand it then, that is a method understood to be made independent of any other survey?

A. Repeat that?

Q. Now referring to the independent method, that is a method, as I understand it of making a survey independent of any other survey?

A. The words "dependent" and "independent" are employed by the general land office only in reference to resurveys. The terms are never applied in specifications for original surveys.

Q. Is it not true that an independent survey can only be made when there is no tracing of a line previously surveyed?

A. I do not understand that question.

Q. Then please state precisely what an independent survey is?

A. The manual of surveying instructions concerning the surveys of the public lands of the United States makes no reference whatever to dependent or independent surveys. It does, however, make specific reference to dependent and independent resurveys. Your questions are confusing as between original surveys and resurveys, and are not understood.

Q. You have made it clear that at the time the Carpenter survey was made that there had been a previous survey made by Darling?

A. Yes sir.

Q. What I am trying to bring out, was that Carpenter survey then a dependent or independent resurvey?

A. The Carpenter survey,——

Q. "Dependent" or "independent?"

A. —The Carpenter survey was an independent resurvey.

Q. In making an independent resurvey was that not contrary to the usual rule or custom?

A. No sir. It may be inferred from the special instructions dated July 7, 1902, issued to Howard B. Carpenter, United States Surveyor, that it was the intention of the department to cause an independent resurvey, and it may be inferred that the department was in possession of all the facts upon which the department could de- [fol. 766] termine whether the resurvey to be executed by Carpenter should properly be of the "dependent" or "independent" type of resurvey.

Mr. Keyes: I move to strike the answer as not responsive to the question.

Mr. Ramsey: You reach your conclusion that the instructions given by the commissioner of the general land office to Mr. Carpenter entirely were based upon the language used in the instructions and not from any other knowledge you have in regard to the matter:—Is that correct? In other words, is that your interpretation of the instruction?

Mr. Kidder: I have based my answers to your questions both upon the specific language of the special instructions issued to Carpenter and my general knowledge of the specifications of the general land office for both types of resurvey, dependent and independent. The specifications for the two classes of resurvey are entirely different, and there should be no confusion between the two types of resurvey. In some cases the general land office finds it necessary to prescribe an independent——

Mr. Ramsey (interposing): Are you making a voluntary statement to me, or are you answering my questions? I want you——

Mr. Clancy (interposing): I want you to—not interrupt the witness——

Mr. Ramsey: Are you?

Mr. Clancy: You should not interrupt the witness.

Mr. Ramsey: We are making our objections, which we have a right to do. We object to these volunteer statements——

Mr. Clancy (interposing): You are continually breaking in on him while right in the middle of a sentence.

Mr. Ramsey: We have a right to make our objections.

[fol. 767] Mr. Kidder: What was the last?

Examiner Luther: —"an independent."

Mr. Kidder: —"type of resurvey." Add that. In other cases a dependent type of resurvey is called for. It all depends upon the known facts with reference to a particular original survey.

Mr. Ramsey: Is it not unusual and is it not considered unprofessional for a surveyor to obliterate or destroy the corners and monuments that have been established by a previous survey?

Mr. Kidder: Not when the previous survey is unsatisfactory and no rights have been attached or established to the original survey.

Q. Is it not unusual, especially where the previous survey has been made by a competent United States surveyor and astronomer, to direct that his corners and monuments shall be obliterated and destroyed?

A. I think so, as a general rule.

Q. Now then, if I understand you correctly, and I want to so understand you, you take the position now that the Carpenter resurvey and line established by him was an independent survey of the old original line established by Darling? Is that correct?

A. It was an independent resurvey of the thirty-seventh parallel of north latitude, regardless of monuments established by Darling.

Q. In other words a new fixation?

A. Yes sir.

Q. Of the line established by Darling?

A. No sir.

Q. Was it then a new fixation of the thirty-seventh parallel as fixed by Darling?

A. No sir.

Q. What was it?

A. It was a resurvey of the thirty-seventh parallel of north latitude.

[fol. 768] Q. That implies a previous survey had been made of the thirty-seventh parallel?

A. Yes sir.

Q. Who made it?

A. Darling.

Q. Then it is true that it was a new fixation of the thirty-seventh parallel as fixed by Darling, is it not?

A. No sir.

Q. Referring to the Carpenter survey and field notes I will ask you to examine the certificate on page 347 of the bill of complaint made by the flagmen, the chainmen, the transit men, the axmen and moundmen——

Mr. Clancy (interposing): It would be the same as in that big book, which is a part of the record anyway— —

Mr. Ramsey: I will shorten that a little bit. Instead of "made by the flagmen," etc., let it read "made by Carpenter's assistants."

Mr. Kidder: Now read the question please?

Examiner Luther: "Referring to the Carpenter survey and field notes I will ask you to examine the certificate on page 347 of the bill of complaint made by Carpenter's assistants?"

Mr. Kidder: It shows that the resurvey——

Mr. Clancy (interposing): You have only asked him to examine it so far.

Mr. Ramsey: That certificate on page 347 shows that the resurvey was of the south boundary of the state of Colorado?

Mr. Clancey: That is not the question.

Mr. Kidder: The question——?

(Question as amended by Mr. Ramsey repeated.)
(Witness examines record.)

Mr. Ramsey: Does it not show that the same was a resurvey of the south boundary line of the state of Colorado?

Mr. Kidder: Yes sir.

[fol. 769] Q. If the Carpenter line should be run at the present time, with present methods, and more modern instruments, would the Carpenter line be accurate or not?

A. The same results would be obtained under the same specifications.

Q. Is that your answer?

A. Yes sir.

Q. I hardly think that is an answer to my question Mr. Kidder.

A. Then please read the question, Mr. Examiner.

Examiner Luther: "If the Carpenter line should be run at the present time, with present methods, and more modern instruments, would the Carpenter line be accurate or not?"

Mr. Kidder: I have not intended to cut the answer short. Carpenter employed modern instruments and Carpenter employed modern methods; and the general land office has not changed its specifications for the determining of parallel of latitude. It should be understood that the same stations can be reoccupied with the same results, but change in the specifications for the determination of the parallel of latitude would necessarily result in slight changes in the position of the line.

Mr. Ramsey: Is that all?

Mr. Kidder: Yes sir.

Q. Then your answer is that if such survey should be made now in the way described, that the Carpenter survey would be as accurate now as it was then?

A. It would be the same now as it was then.

Q. That is what you say, as accurate now as then?

A. There are different degrees of accuracy, depending on specifications.

Q. Does not the establishment of a parallel of latitude by means of astronomical observations depend entirely on the point at which the observations are made?

A. Yes sir.

[fol. 770] Q. Is it possible for a parallel to be reproduced by a second surveyor or engineer unless the second engineer or surveyor, occupies for latitude determination, the same point where observations were made by the first surveyor or engineer?

A. The same stations should be reoccupied in order to obtain identical results.

Q. In effect, your answer is "yes," is it not?

A. Your question was a broad one, as I understood it. There are conditions under which the same stations would not necessarily have to be reoccupied, but having in mind the mountainous region of the territory upon the common boundary line between Colorado and New Mexico, it is proper to state that the same stations should be reoccupied when making latitude determination. Necessarily the record shows that astronomical stations numbers five and six were reoccupied with identical results. The record further shows that the thirty-seventh parallel of latitude was projected by Carpenter from station eight east to the boundary between Colorado and Kansas, and that subsequently the terminal point was occupied for latitude determination, with the result that the line was found to be precisely on the thirty-seventh parallel of latitude. This point was about twenty miles from station number eight.

Q. In that connection will you please explain what is meant by the commissioner of the general land office in his letter to Carpenter in which he states between the fifth and sixth astronomical stations "there seems to be such a deflection from the true east line as would indicate that one of these monuments was not upon the thirty-seventh parallel of latitude"?

A. This means that the commissioner of the general land office did not fully understand why the directions of the line between the [fol. 771] fifth and sixth astronomical stations was not more nearly a true west and east line, and that the commissioner desired to look into the facts before approving the survey.

Q. Did you make any change or find any errors in the Carpenter survey?

A. I made no changes in the Carpenter survey and I found no errors in the Carpenter survey.

Q. That answers my question.

A. The results were found to agree exactly with the facts as reported by Carpenter.

Q. Is it not true that astronomical observations for latitude are referred to a line called "the vertical" which is at right angles to the water surface?

A. Yes sir.

Q. Is not this water surface tilted toward any great mass, such as a large island, or mountain system?

A. Yes sir.

Q. Then a deflection from "the vertical" may result in variations of a mile or more as compared with direct measurements and a system of triangulation, may it not?

A. I know of no such large discrepancies.

Q. There may be considerable discrepancy, may there not?

A. Yes sir. That explains——

Q. And would that be in the Carpenter line——

Mr. Clancy: Let him complete his answers.

Mr. Kidder: That explains why the Carpenter line is not at every point a true east and west line.

Mr. Ramsey: That is just what I am trying to get at: in other words it is not an accurate parallel of latitude,—is that right?

Mr. Kidder: It is to this extent: there could be a more precise determination of the true thirty-seventh parallel of latitude.

Mr. Ramsey: Yes, sir. That's all.

Redirect examination by Frank W. Clancy, Counsel for the State of New Mexico:

[fol. 772] Q. What is in the notes of the Carpenter survey showing the directions of the line between astronomical stations five and six—between those astronomical monuments—upon which the commissioner must have based his statement in the letter which was read or quoted from to you by Mr. Ramsey? I will all to that Mr. Kidder this point: what was in the notes that caused the commissioner to say, there was such a deflection in the line as to indicate that one or both of this fifth and sixth astronomical monuments are not located on the parallel of latitude, thirty-seventh degree?

A. I have got the place here (referring to book of notes). In the Carpenter field notes of the two hundred and eighteenth mile of his survey he states after the distance of 18.97 chains, "Set temporary astronomical monument. The line from this point run thru to the 6th astronomical station, on the 275th mile, where the falling was found to be 18.36 chains north of the 37th parallel, as determined by astronomical observations on nights of October 28th, 29th, and 30th, 1902. This being outside of the limit of 3" of arc allowed by the Hon. Commissioner the line was adjusted by applying the correction of 24.7 links per mile to the south, to bring it within said limit."

Q. Your information is it was upon that in the notes that the commissioner based his statement as read to you by Mr. Ramsey?

A. Partly, and principally, but it is—I am also of the opinion that the general land office was in possession of a report from another examiner, who had retraced the line, or part of the line, between numbers five and six, and it is reasonable to presume that the commissioner's statement contained in the letter referred to was based partly upon the report of the field examiner.

[fol. 773] Q. Do you know who that examiner was?

A. Mr. Frank M. Johnson.

Q. In your opinion is or is not the Carpenter line as nearly and accurately a fixation and establishment of the thirty-seventh parallel as can be expected under the methods employed and as specified in the instructions as given to him and in accordance with those instructions?

A. Yes sir.

Q. I understand from your testimony, from the tenor of your statements, that absolute and unchangeable accuracy in the fixation of such a line is not within the limits of human possibility. I think that is perhaps pretty strongly stated. However, I think you have got the idea I desire to convey and you no doubt can express in much better terms than I did?

A. The fixation of the Carpenter thirty-seventh parallel of latitude was as accurate as was possible under the specifications which he had to follow, and these specifications were as practicable for the location of the line as could reasonably be prescribed within the limit of the funds available for the survey. Greater precision could be obtained only thru a change in the specifications which would require a large increase in expense. It should be understood that under the specifications of the United States Coast and Geodetic Survey, the thirty-seventh parallel of north latitude could be fixed with precision, but that any practical surveyor in following the line by ordinary field methods would not find the line to be true east and west at all points. It all depends upon what is meant by precision in latitude and by precision in direction. As far as I am aware there has been no parallel of latitude laid down on the earth's surface on the specifications prescribed by the United States Coast and Geodetic Survey, as such specifications are in the ordinary sense impracticable of carrying out in the field. Their specifications are used for mathe-[fol. 774] matical and scientific purposes only but not for practicable purposes and uses.

Q. If I understand you correctly in your mind you make a distinction between the result of a theoretical accuracy in the location of such a line and practical accuracy in such location?

A. I do. That is the point exactly.

Q. And in your opinion is the Carpenter line practically as accurate in fixing the thirty-seventh parallel on the earth's surface as can be expected by practicable ordinary methods of such work?

A. Yes sir.

Q. Then if I understand you correctly you reoccupied the fifth and sixth astronomical stations after Carpenter's work was done?

A. Yes sir.

Q. And you found them to be accurately located?

A. Yes sir. I may add that in redetermining these stations they were occupied at a time when I was able to use an independent series of stars from which I obtained identical results.

Q. I think that is all I want to ask you Mr. Kidder?

A. Is that all?

Recross-examination by V. E. Keyes, Attorney General and Counsel for Defendant, the State of Colorado:

Q. I understand from your testimony that the instructions received by Carpenter were such, that if he followed them, it was impossible for him to locate a true and precise parallel of latitude? Is that true?

A. Yes sir I think it is.

Q. The Carpenter line, then, is not a line that is due east and west at all points?

A. That is correct.

Q. As a matter of fact it is to some extent a zigzag line as it is made?

A. Yes sir.

Q. You think that the maximum deviation at any point from the true parallel of latitude would not extend more than four hundred feet, did I understand you to say?

[fol. 775] A. I said that is my opinion, but I would say probably less, rather than more.

Q. The instructions given to Carpenter do not include to any extent the so-called triangulation method?

A. No sir; the triangulation method was not mentioned.

Q. That is all.

Mr. Clancy: Do the notes of the Carpenter survey show the deviation from the true east and west line, where there is any such deviation?

Mr. Kidder: Yes sir

Mr. Clancy: Have you made such an examination of these notes as to be able to state at what point or points occur the greatest deviation from a true line? I do not imagine you have, but I think you may state if you can?

Mr. Kidder: I have never made a detailed examination of all the Carpenter field notes, but my understanding is, the greatest deviation occurs between stations five and six, astronomical station five being located near the summit of the Culebra mountains, and astronomical station number six being located fairly well below the foot of the range.

Mr. Clancy: I think that covers the ground.

Mr. Keyes: In the region of the thirty-seventh parallel of latitude at the one hundred and third and one hundred and ninth meridians, are there any considerable variations in the elevation and in the density of the earth's crust?

Mr. Kidder: Yes sir

Q. What can you say in general with reference to the differences of elevation?

A. The difference in elevation ranges from about four thousand feet to about twelve thousand feet above the sea level along the line, with lofty peaks of much higher elevation both north and south of the parallel.

[fol. 776] Q. Are those differences in elevation both frequent and extreme?

A. They are, yes sir.

Q. Is that the only reason for the deflection of the vertical?

A. Yes sir, that is one of the principal reasons.

Mr. Keyes: I think that is all.

Mr. Clancy: These eight astronomical stations located and occupied by Carpenter in his survey, were of varying and different altitudes were they not? All of them?

Mr. Kidder: Yes sir, they were.

Q. Would that fact tend to accuracy in the line formed upon a combination of all his stations, and were there any possibility of error anywhere, it would be corrected in another place?

A. Yes sir, the practical effect is the general average.

Mr. Ramsey: Can you state Mr. Kidder the variance in distance between the Carpenter line and the originally established Darling line?

Mr. Kidder: No sir, not without an examination of the records.

Mr. Ramsey: That is all.

Mr. Clancy: I think we may release Mr. Kidder from his servitude so that he can go this afternoon.

Mr. Kidder: I hope to get away today.

Examiner Luther: Witness is excused. In case you are detained in your work you will be available if there may be some more questions by counsel on either side?

Mr. Kidder: Yes.

(Witness excused at 11:35 a. m., second day, 18 July, 1922.)

Examiner Luther: We will take a short recess.

After Recess

[fol. 777] (After a recess of five minutes proceedings resumed.)

Mr. Clancy: I will call and have duly sworn Mr. Frank M. Johnson.

FRANK M. JOHNSON, called as a witness on behalf of the plaintiff, the state of New Mexico, having been first duly sworn according to law, to testify the truth, the whole truth, and nothing but the truth, in the cause now pending, upon his oath testified in evidence as follows, viz:

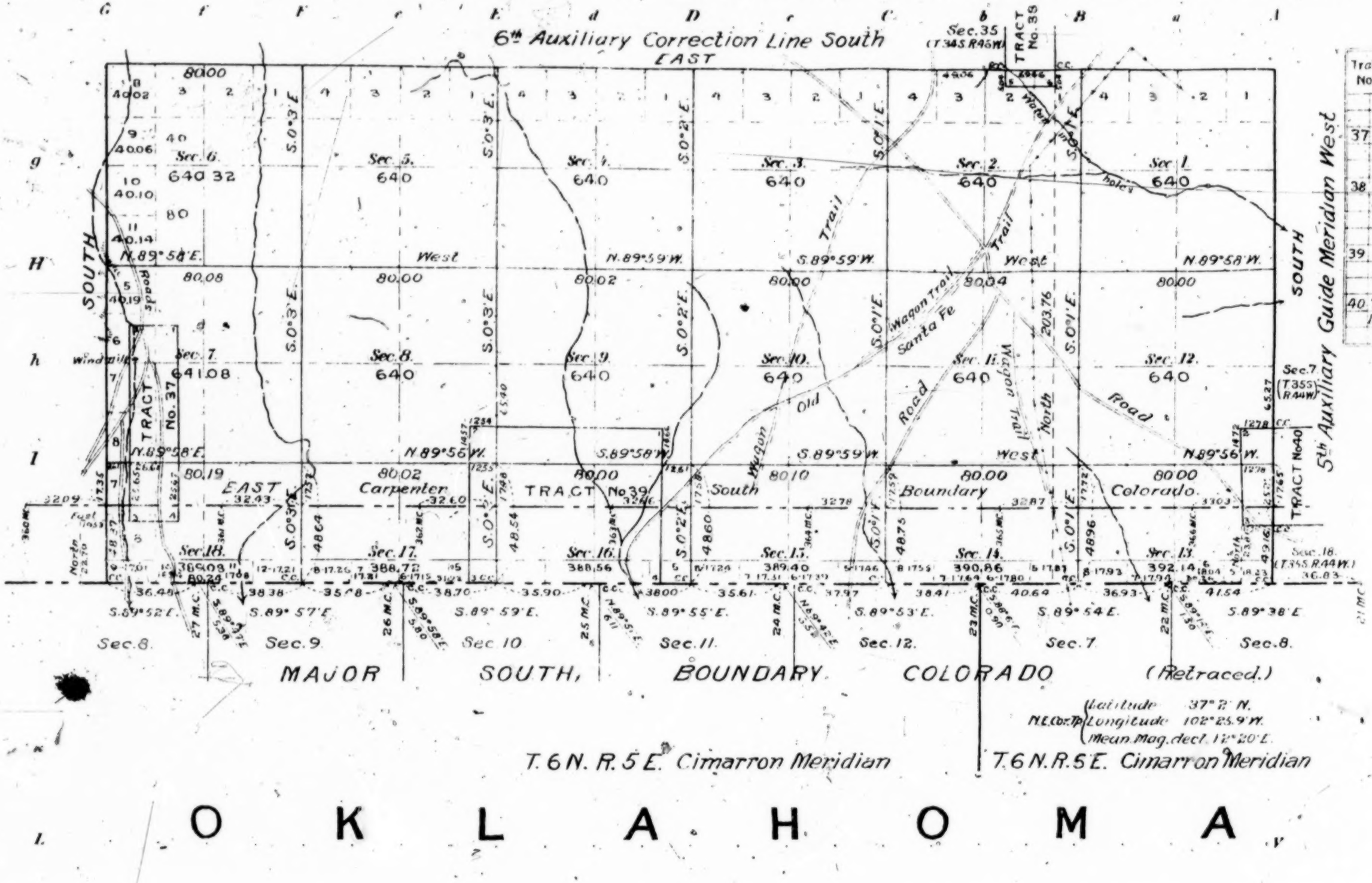
Direct examination by Frank W. Clancy, Counsel for the State of New Mexico:

Q. What is your name, occupation and official position?

A. Frank M. Johnson, civil engineer, and am United States Supervisor of Surveys.

Resurvey

Fractional Township No. 35 South, Range No. 45 West of the 6th Principal Meridian in Colorado.



O K L A H O M A

See Supplemental Diagram

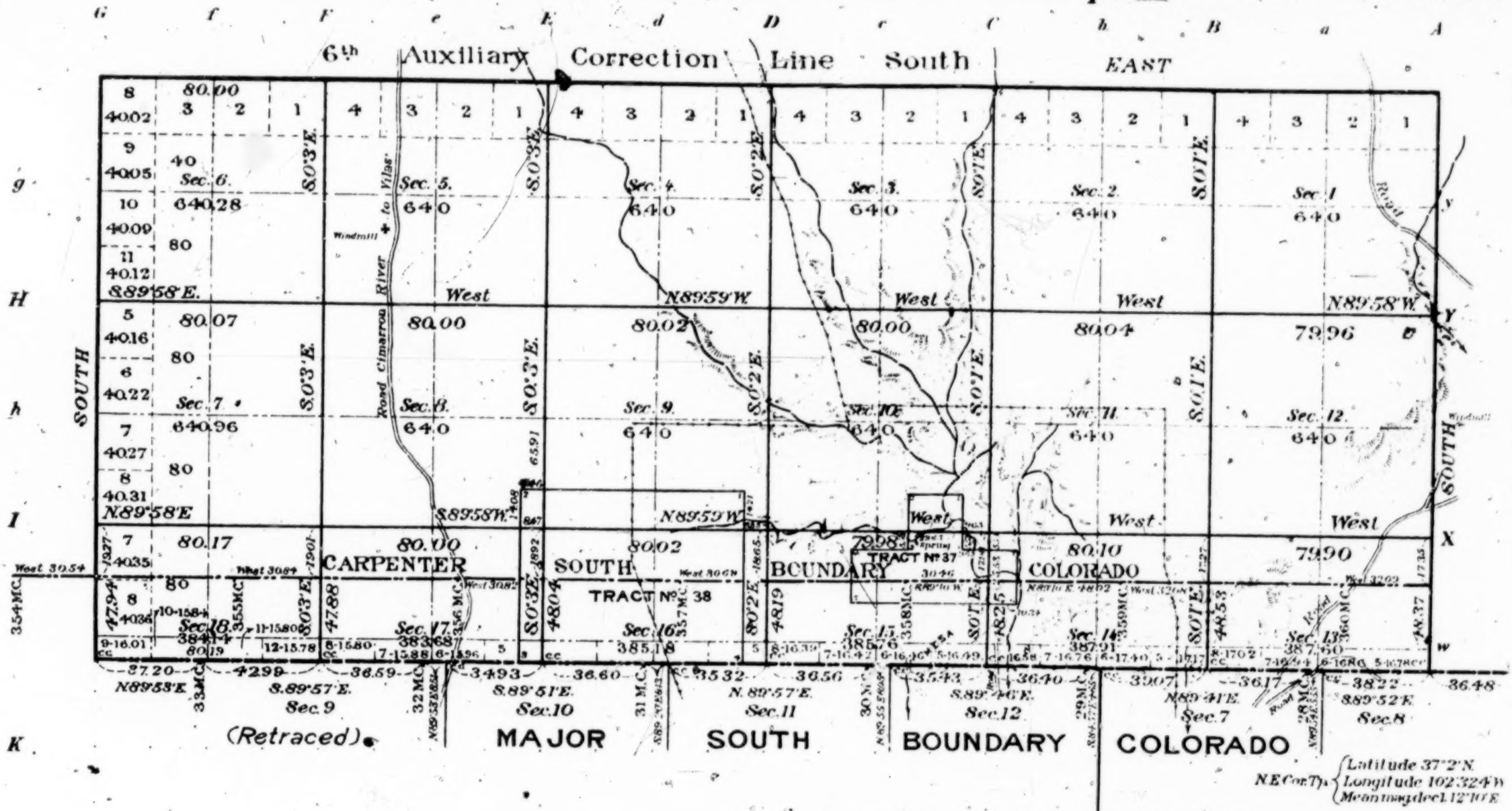
Tract No.	Sections	Entry and Entryman	Original Description
		Com C.E	E. ½ SW ¼ Sec. 7, and E
37	7-18, T. 35 S. R. 45 W.	Teodocia Cordaba	½ NW ¼ Sec. 18, T. 35 S. R. 45 W.
38	2, T 35 S. R. 45 W.	Hd.	S ½ S E ¼ and S E ¼ S W ¼ Sec. 35, T. 34 S. R. 45 W. and Ld 1 Sec 2, T. 35 S R 45 W.
	35, T. 34 S. R. 45 W.	Charles P. Green	
39	8-9-16-17. T. 35 S. R. 45 W.		School Section 16. T. 35 S. R. 45 W.
40	7-18, T. 35 S R. 44 W. 12 13, T. 35 S. R. 45 W.	Pre E. Thomas H. Cole	N. W. ¼ Sec. 18. T. 35 S. R. 44 W.

6th Auxiliary Guide Meridian West

18.
44 W.)
88
21 mc

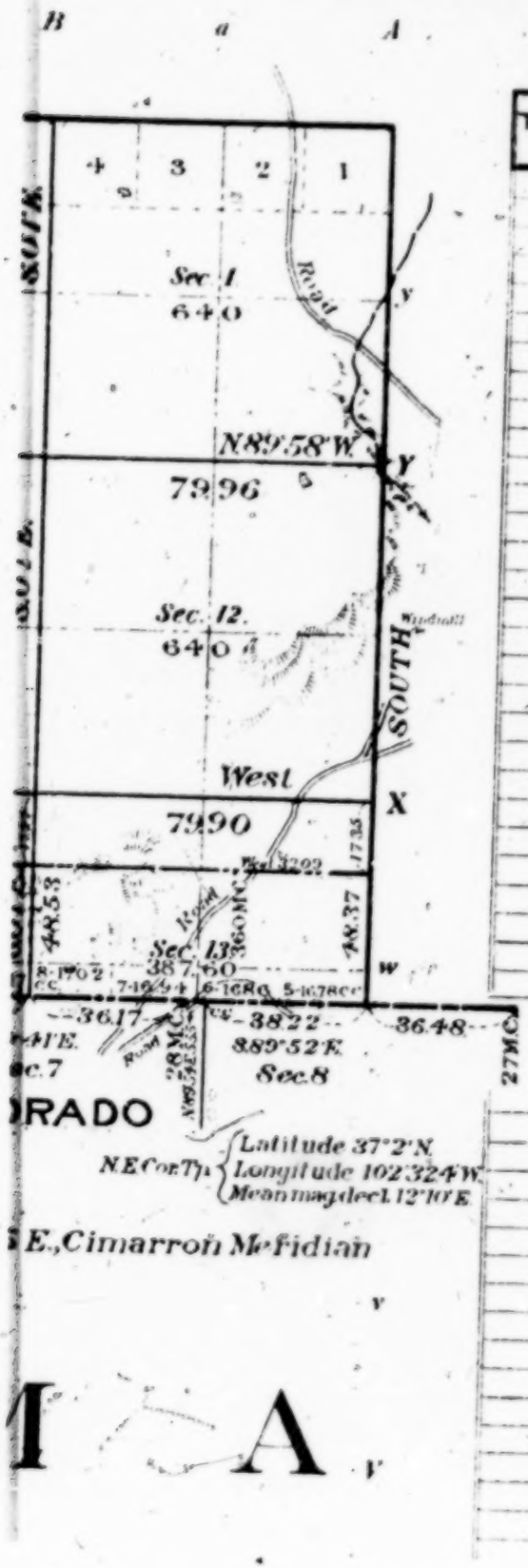
(4-675a)

Resurvey Fractional Township No. 35 South, Range No. 46 West of the 6th Principal Meridian in Colorado



OKLAHOMA

...ridian in Colorado.

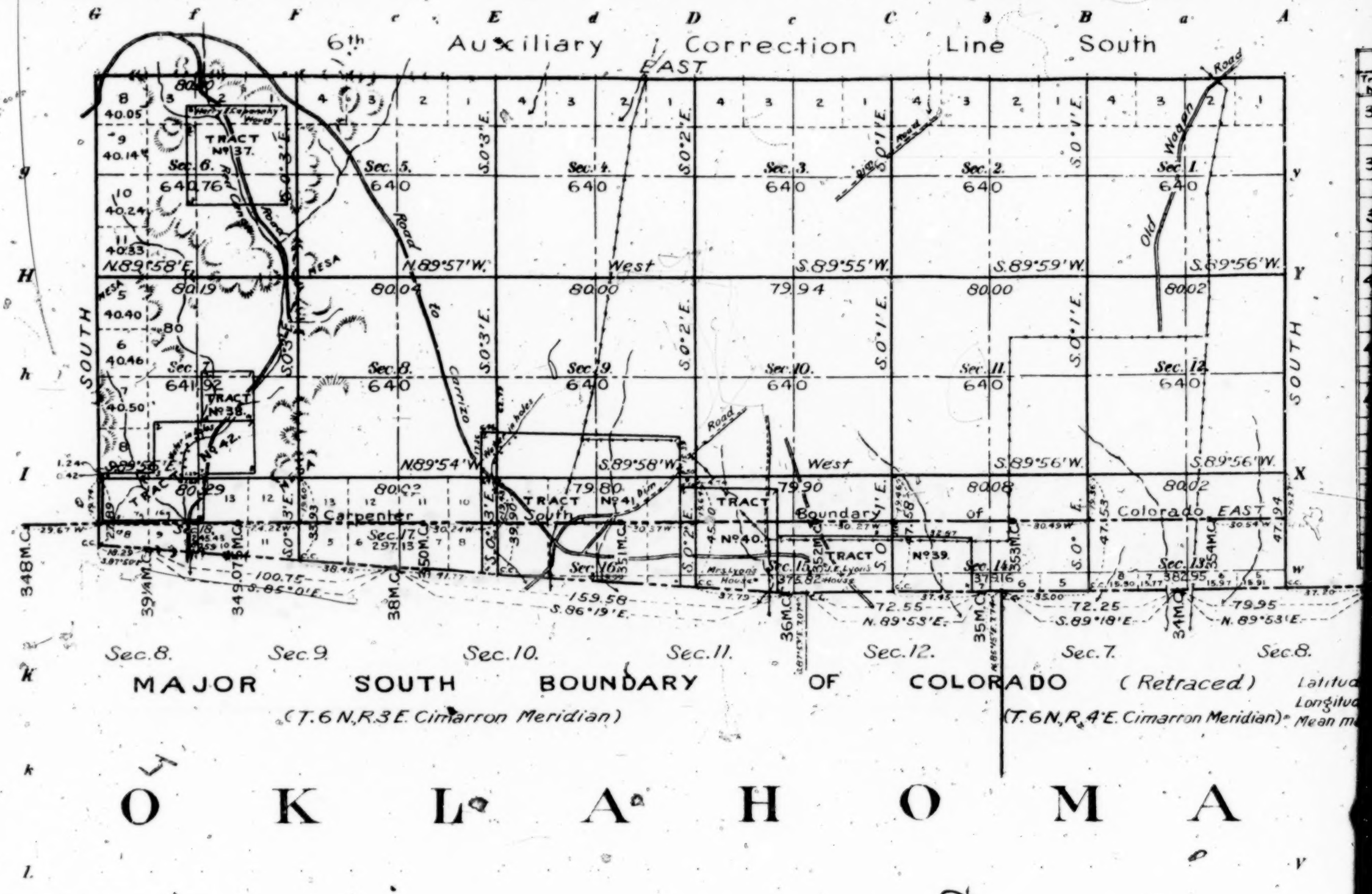


See Supplemental Diagram

Tract No	Sections	Entry and Entryman	Original Description
37	NW¼ SE¼ T 35 S R 46 W	F Bd Cit; Fred Malm	NE¼ NE¼ and S½ NE¼ Sec. 15 and SW¼ NW¼ Sec. 14 T. 35 S., R 46 W
38	S½ Sec 17, T 35 S R 46 W		School Section in T 35 S R 46 W

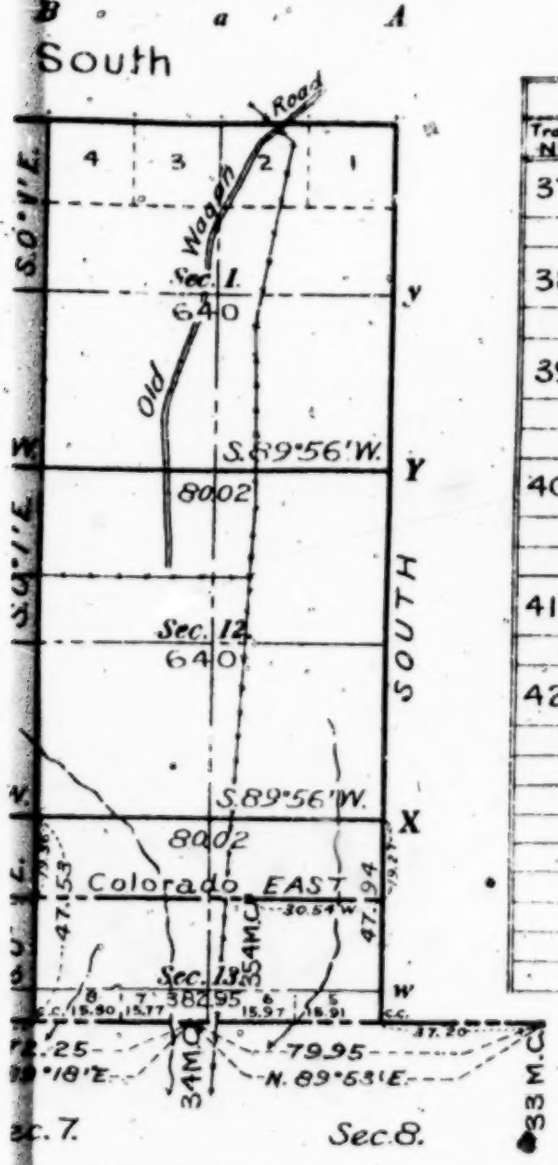
Resurvey

Fractional Township No. 35 South, Range No. 47 West of the 6th Principal Meridian, Colorado.



O K L A H O M A

eridian Colorado.



(Retraced)

4 E. Cimarron Meridian)

Latitude 37°02'N.
Longitude 102°39'W.
Mean mag. decl. 12°31'E
} At N.E. Cor. Tp.

See Supplemental Diagram.

Tract No	Sections	Entry and Entryman	Original Description
37	6, T.35S., R.47 W.	Hd. Harry E. Capansky	S.E. 1/4, Sec. 6 T.35S., R.47 W.
38	7, T.35S., R.47 W.	Forest Lieu Selection William E. Moses	S.W. 1/4 S.E. 1/4, Sec. 7 T.35S., R.47 W. (6th P.M.)
39	14, 15, T.35S., R.47 W.	F. Hd. Ctf. John Ellsworth Lyons	Lots 3 and 4, Sec. 14, Lots 1 and 2, Sec. 15, T.35S., R.47 W.
40	15 and 16, T.35S., R.47 W.	Hd. Mary Lyon	Lots 3 and 4 and S1/2 N.W. 1/4, Sec. 15, T.35S., R.47 W.
41	8, 9, 16 and 17 T.35S., R.47 W.		School Section 16, T.35S., R.47 W.
42	7 and 18, T.35S., R.47 W.	Com. to C.E. William E. Hughes	S1/2 N.W. 1/4, N.E. 1/4 N.W. 1/4, N.W. 1/4 N.E. 1/4 Sec. 18 T.35S., R.47 W.

See Supplemental Diagram for areas of all lots in Sec's 14, 15, 16, 17 and 18.

M

N

O

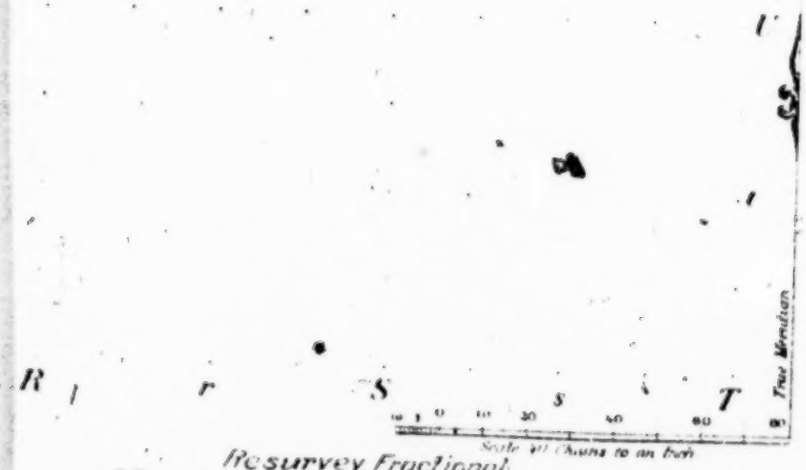
Public Land 9293.90
Private " 726.26 Total number of Acres 10020.16

P

Q

R

Survey Designated	By Whom Surveyed	No.	Date of Contract	Amount of Survey M Chs Lks	When Surveyed	
West Township line.	Arthur D. Kidder and Jay P. Hester	863	April 20, 1908			
Subdivisions	" " " "	"	" " "		Nov 7, 1908	Resurvey
Connections	" " " "	"	" " "	25 - 03 - 94	" 20 23 "	"



Resurvey Fractional

The above Map of Township No. 35 South of Range No. 45 West of the 6th Principal Meridian in Colorado is strictly conformable to the field notes of the survey thereof on file in this Office, which have been examined and approved

Surveyor Generals Office
Denver, Colo. November 6th 1909

A. L. Lewis
Surv. Gen'l

DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Washington, D. C., Jan. 20, 1922.
I hereby certify that this is a true copy of the plat of survey of the lands to which it relates, on file in this office.

Geo. W. Tuckleman
Assistant Commissioner

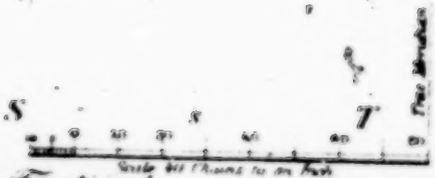
OKLAHOMA

Public Land 9339.30
Private " " 656.21

Total number of Acres 9995.51

Surveys Designated	By Whom Surveyed	No.	Date of Contract	Amount of Surveys M Ch's Lk's	When Surveyed	
East and West Township lines	Arthur D. Kidder and Jay P. Hester	863	April 29th 1908		Nov 5th - 7th 1908	Resurvey
Subdivisions	" " "	"	" " "	25 - 01 - 15	" 12th - 14th " "	" "
Connections	" " "	"	" " "	5 - 05 - 01	" " " " "	" "
6th Aux Corr Line South	" " "	"	" " "		" 7th " "	" "
Major South Bdy Okla.	" " "	"	" " "		Oct 30th - Nov 5th " "	Retracement

O M A



Resurvey Fractional

The above Map of Township No. 35 South of Range No. 46 West of the 6th Principal Meridian in Colorado is strictly conformable to the field notes of the survey thereof on file in this Office; which have been examined and approved.

Surveyor Generals Office
Denver, Colo. November 6th 1909

W. G. Lewis
Sur. Gen'l

DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Washington, D. C., Jan. 20, 1922.
I hereby certify that this is a true copy of the plat of survey of the lands to which it relates, on file in this office.

Assistant Commissioner

724

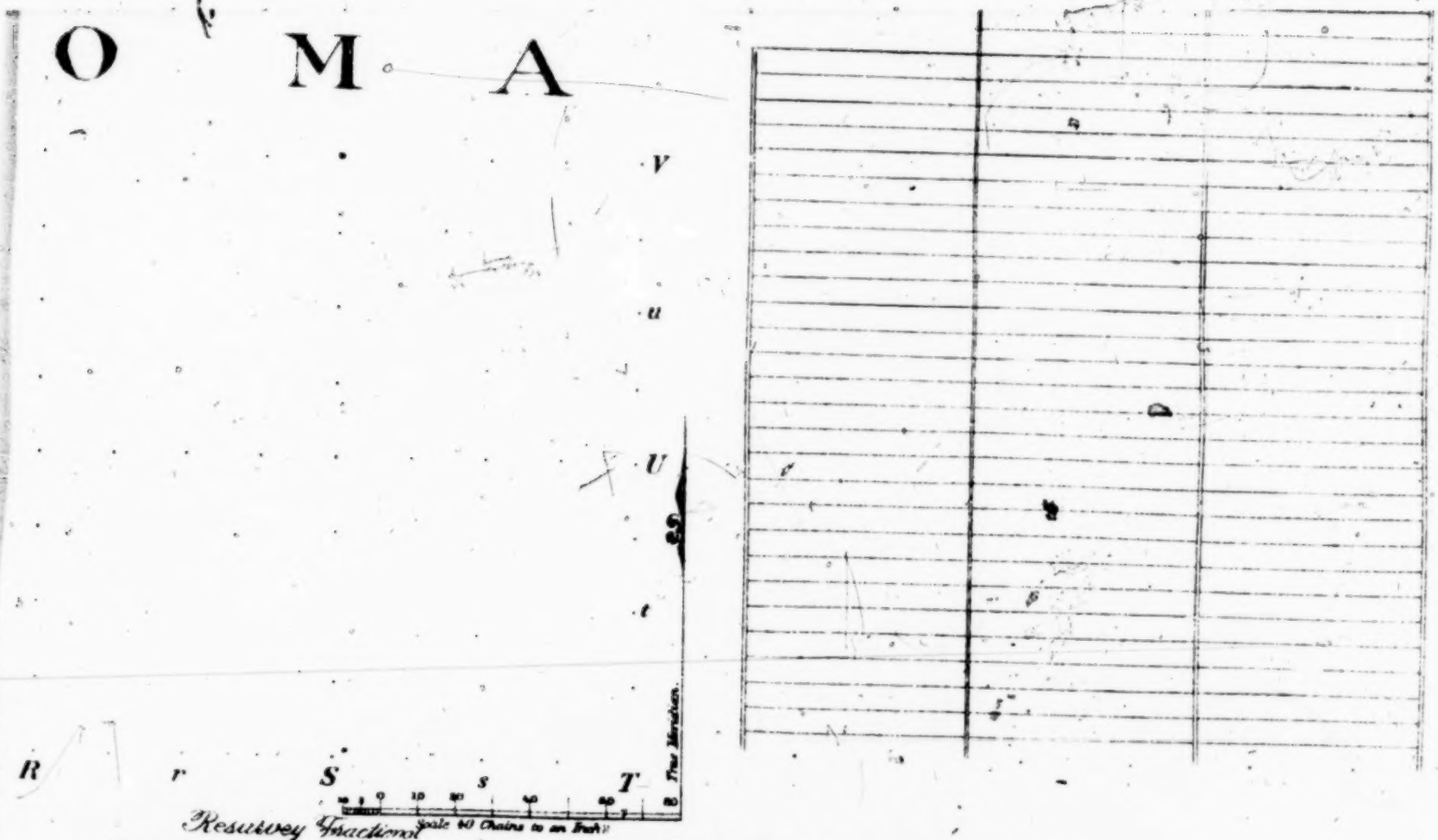
O K L A H O M A

Public Land 8534.23
Private Land 1168.93 } Total number of Acres 9703.16

Survey Designated	By Whom Surveyed	No.	Date of Contract	Amount of Survey M. Ch. Li.	When Surveyed	
W and E Boundaries	Arthur B. Hinder and Jay P. Hester	863	Apr. 20, 1908		Oct. 19-Nov. 1, 1908.	Resurvey
Subdivisions	" " " "	"	" " "	24 - 54 - 4	Nov. 4-6, 1908.	"
Connections	" " " "	"	" " "	5 - 17 - 16	" " " "	"
6th Aux. Corr. Line S.	" " " "	"	" " "		Nov. 1, 1908	"
Major South Bdy. Colo	" " " "	"	" " "		Oct. 19 - 30, 1908.	Retracement

Orig. E.C.B.
Copy E.C.

O M A



Resurvey Fractional

The above Map of Township No. 35 South of Range No. 47 West of the 6th Principal Meridian in Colorado is strictly conformable to the field notes of the Resurvey thereof on file in this Office, which have been examined and approved.

Surveyor Generals Office
Denver, Colo November 6th 1909

N. J. Lewis
Sur. Gen.l

DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Washington, D. C. Jan 20 1922
I hereby certify that [illegible] is a true copy of the original survey of the lands to which it purports to be in this office.

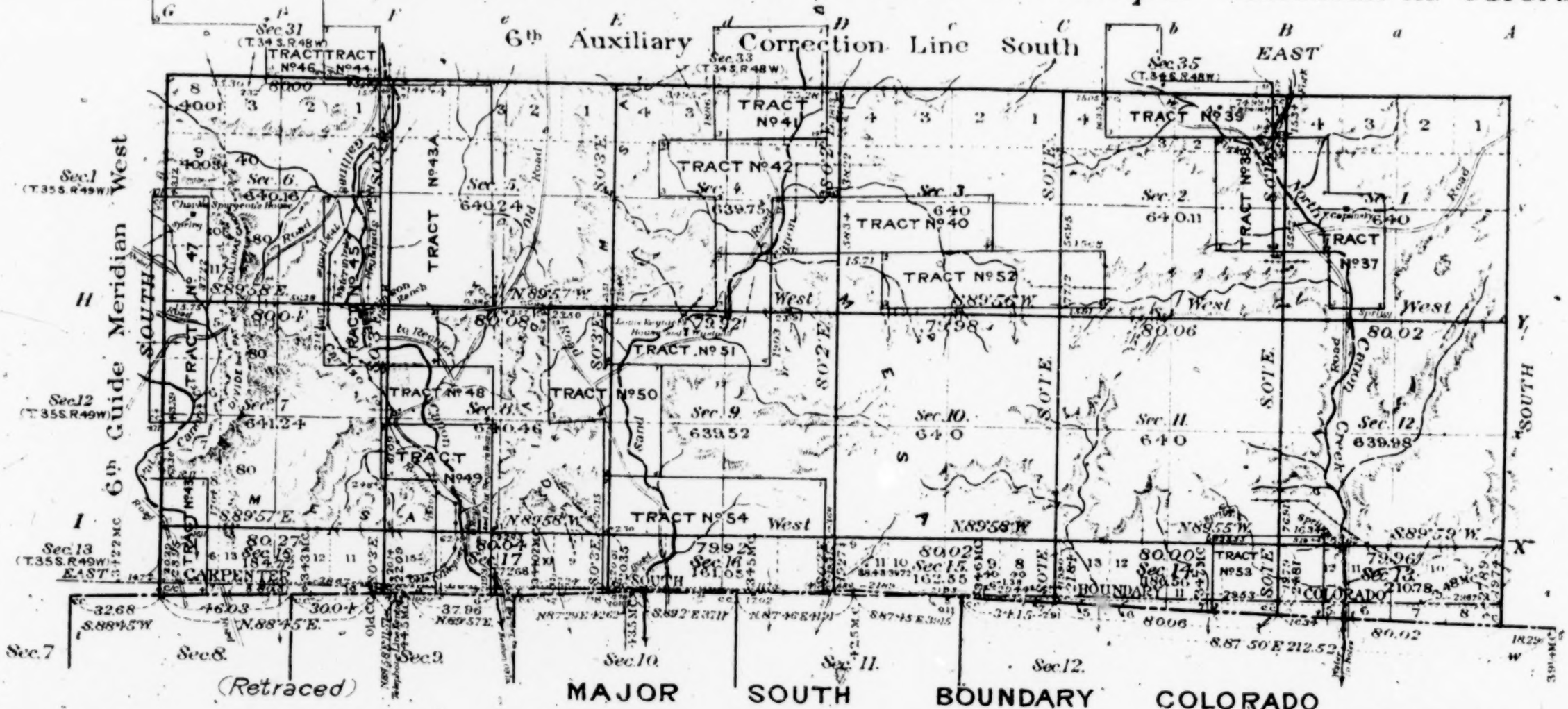
[illegible]
Assistant Commissioner

725

New Mexico
Orig Mer.
T. 17 N.

(4-675a)

Resurvey Fractional Township No. 35 South Range No. 48 West of the 6th Principal Meridian in Colorado.

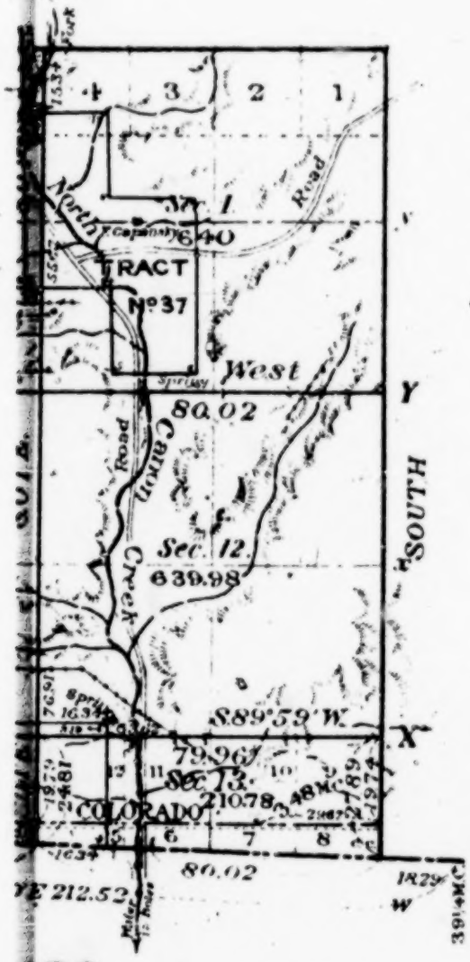


New Mexico v. Colorado / Colorado Ex. 13
Orig No. 17
Ex. 17 of Stipulation

ridian in Colorado.

B a A

AST



ADO

Latitude 37° 2' N.
NE Cor Tp Longitude 102° 45.5' W.
Mean mag. decl. 12° 15' E.

A

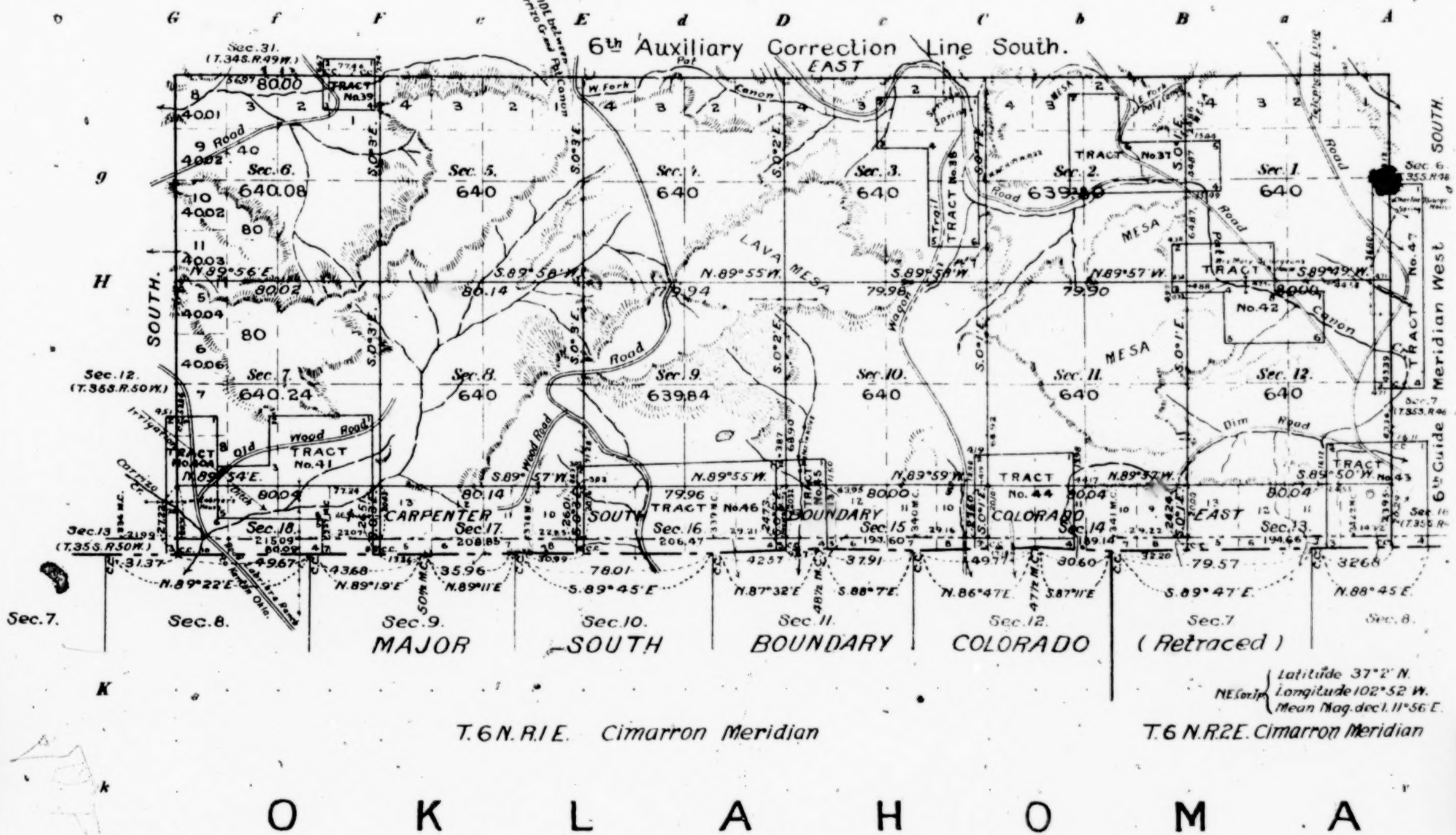
See Supplemental Diagrams

Tract No	Sections	Entry and Entryman	Original Description
			NE¼ NW¼ Sec 12 and W½ W
37	1,2, T 35 S, R 48 W	F Hd Clf Ferdinand Capansky	½ and SE¼ SW¼ Sec 1, T 35
			S, R 48 W
38	2, T 35 S, R 48 W	D L E Ferdinand Capansky	E½ SE¼ Sec 2 T 35 S, R 48 W
39	2, T 35 S, R 48 W 35, T 34 S, R 48 W	F Hd Clf Andrew Capansky	Lot 3, SE¼ NW¼ and S½ NE¼ Sec 2, T 35 S, R 48 W
			N½ SW¼ and SW¼ SE¼
40	3,4, T 35 S, R 48 W	Hd. Ed Herman	Sec 3, and SE¼ SE¼ Sec
			4, T 35 S, R 48 W
41	4 T 35 S, R 48 W 33, T 34 S, R 48 W	F D L E Pedro Alborado	Lots 1 and 2 and S½ NE¼ Sec. 4, T 35 S., R. 48 W
			NE¼ SW¼, W½ SE¼,
42	4 T 35 S, R. 48 W	F Hd Clf Pedro Alborado	and NE¼ NE¼ Sec 4,
			T 35 S., R 48 W.
43A	5, 6, 7, 8 T 35 S, R 48 W	Final D.L.E. Augustus G.B Schroder	N½ NW¼, Sec. 8, and S½ NW¼, and SW¼ Sec. 5, T 35 S, R 48 W
44	6, T 35 S, R 48 W 31, T 34 S. R 48 W	T and S. Cash Entry Addie Schroder	NE¼ NE¼ Sec 6, T 35 S. R 48 W
			SE¼ SE¼, Sec 6, E½ NE
45	6, 7, 8 T 35 S, R 48 W	F Hd Clf Martha E Schroder	¼ Sec 7 and SW¼ NW¼ Sec 8, T 35 S., R 48 W
	6, T 35 S, R 48 W		NW¼ NE¼ Sec 6, T 35 S, R 48
46	31, T 34 S, R 48 W 36, T 34 S, R 49 W	F Hd Clf Francisco Sandoval	W and SW¼ SE¼ and S ½ SW¼ Sec 31, T 34 S, R 48
47.	6, 7 T 35 S, R 48 W 1, 12 T 35 S, R 49 W	F Hd Clf Charles Spurgeon	Lot 7, Sec 6 and Lots 1, 2 and 3 Sec 7, T 35 S., R 48 W.
48	7, 8 T 35 S, R 48 W	D.L.E. Felix Regnier	N½ SW¼ Sec 8, T 35 S., R 48 W
			S½ SW¼, Sec 8, and NE¼
49	7, 8, 17 T 35 S, R 48 W	F Hd Clf Felix Regnier	NW¼ and Lot 3 Sec 17 T 35 S, R 48 W

(4-675g)

Resurvey

Fractional Township No 35 South, Range No 49 West of the 6th Principal Meridian, Colorado.

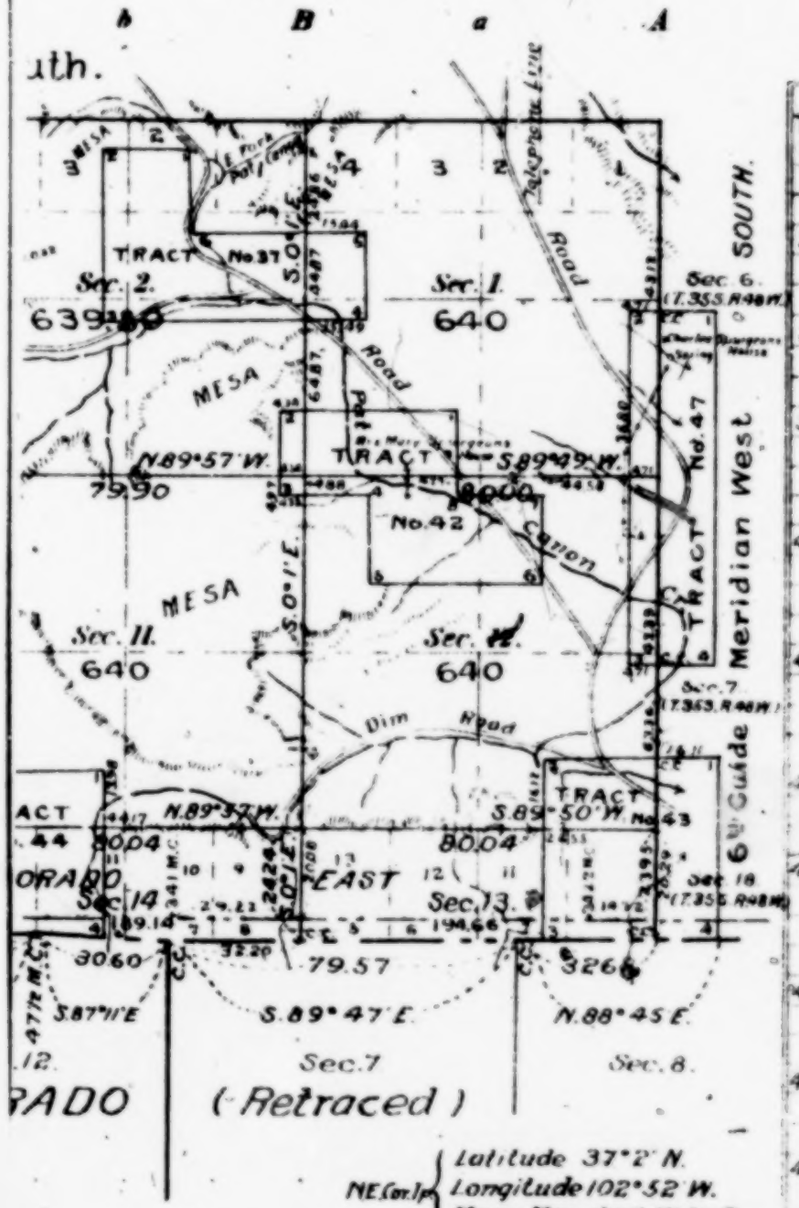


O K L A H O M A

Colorado Ex 17
Donnegan
Exd.

Dep. No. 17.
P. 17 of Testimony.

...ncipal Meridian, Colorado.



TRACT No.	Sections	Entry and Entryman	Original Description
		F. Hd Clf.	N.W¼ S.W¼, Sec 1 and N.
37	1-2, T.35S. R.49W.	Abel W. Capansky	½ S.E¼ and S.W¼ N.E¼ Sec 2 T.35S. R.49W.
38	3, T.35S. R.49W.	F. Hd. Clf.	S½ N.E¼ and E½ S.E¼
		Fred Copenbarger	Sec 3, T.35S. R.49W.
39	6, T.35S. R.49W.	T. and S. Cash E.	N.E¼ N.W¼ Sec 6,
	31, T.34S. R.49W.	Addie Schröder	T.35S. R.49W.
40A	7-18, T.35S. R.49W.	F. Hd Clf.	Lot 4, Sec 7 and Lots 3 and 4, Sec 18,
	12-13, T.35S. R.50W.	George Jay Cornish	T.35S. R.49W.
41	7-18, T.35S. R.49W.	D.L.E.	N.E¼ N.W¼, N½ N.E¼, and Lot 5, Sec 18, and S.
		Alzina Harrington	½ S.E¼ Sec 7 T.35S. R.49W.
42	1-2-11-12, T.35S. R.49W.	F. Hd Clf.	N.½ N.W¼, S.E¼ N.W¼, and S.W¼ N.E¼ Sec. 12,
		Mary E. Spurgeon	T.35S. R.49W.
43	12-13, T.35S. R.49W.	Pre-E	N.E¼ N.E¼ and Lot 1, Sec 13
	7-18, T.35S. R.48W.	John L. Labrier	T.35S. R.48W. and Lots 1 and 2, Sec 18, T.35S. R.48W.
44	10-11-14-15, T.35S. R.49W.	F. Hd Clf.	Lots 3, 4, and N½ NW¼
		George T. Wood	Sec. 14 T.35S. R.49W.
45	9-10-15-16, T.35S. R.49W.	Com to C.E.	Lot 4 and NW¼ NW¼
		Robt. N. Tharp Sr.	Sec. 15, T.35S. R.49W.
46	8-9-16-17, T.35S. R.49W.		Schutt Section 16 T.35S. R.49W.
47	1-12, T.35S. R.49W.	F. Hd Clf.	Lot 7, Sec 6, and Lots 1-2
	6-7, T.35S. R.48W.	Charles Spurgeon	and 13, Sec 7 T.35S. R.48W.

O M A

(4-675a)

Resurvey

Fractional Township No. 35 South, Range No. 50 West of the 6th Principal Meridian, Colorado

6TH Auxiliary Correction Line South

T 34 S R 50 W

Sec 32 | Sec 33 | Sec 34 | Sec 35 | Sec 36

TRACT No 41 EAST

TRACT No 43 | TRACT No 42 | TRACT No 38 | TRACT No 39 | TRACT No 40 | TRACT No 47 | TRACT No 37

TRACT No 44 | TRACT No 45 | TRACT No 46 | TRACT No 48

Sec 1 | Sec 6 | Sec 5 | Sec 4 | Sec 3 | Sec 2 | Sec 1

Sec 12 | Sec 7 | Sec 8 | Sec 9 | Sec 10 | Sec 11 | Sec 12

Sec 13 | Sec 18 | Sec 17 | Sec 16 | Sec 15 | Sec 14 | Sec 13

Divide between Furnish and Blacksmith Canons

Furnish Road

Blacksmith Canon

Mesa

Creek

Road

CARPENTER SOUTH B'DY. COLO.

MAJOR SOUTH BOUNDARY COLORADO (Retraced)

Sec. 23 T 32 N. R 36 E N.M.P.M. | Sec. 24 | Sec. 19 | Sec. 20 T 32 N. R 37 E N.M.P.M.

Sec. 7 | Sec. 8 T 6 N. R 1 E Cimarron Meridian

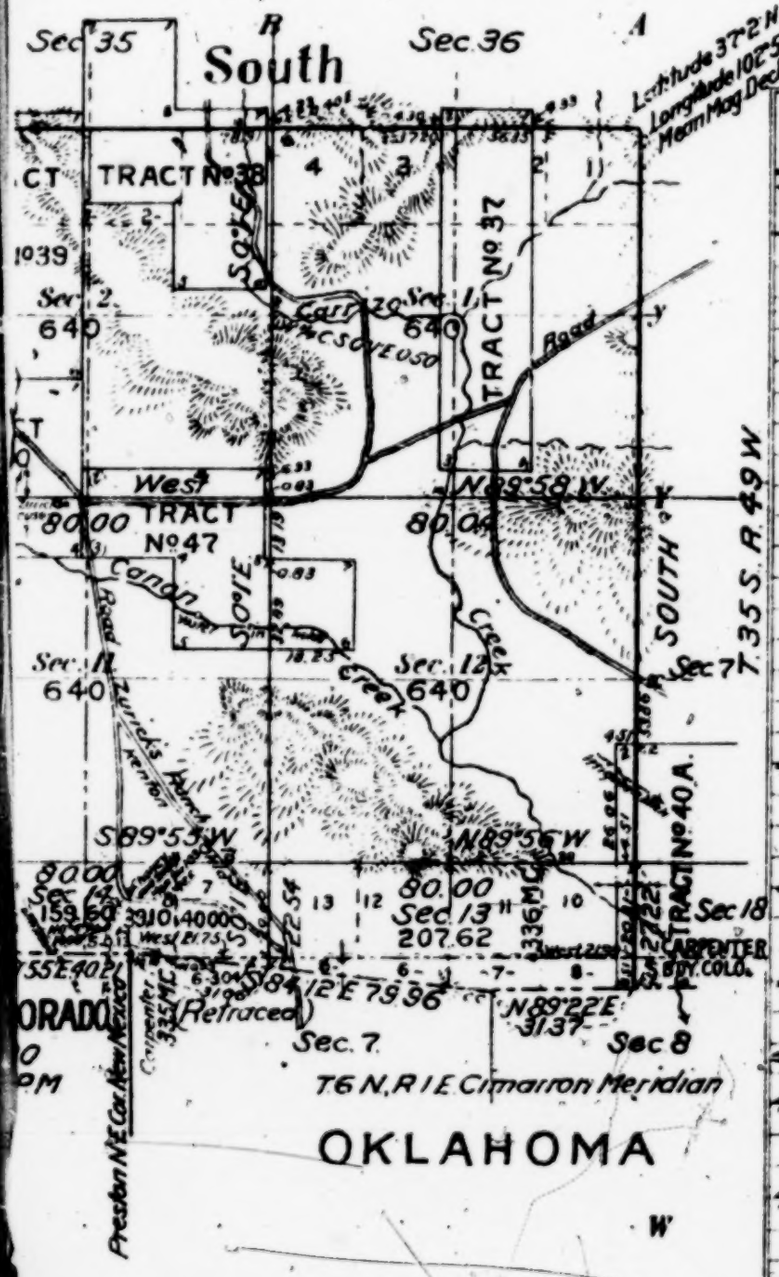
NEW MEXICO

OKLAHOMA

Preston N.E. Cor. New Mexico

Latitude 37° 2[illegible]
Longitude 102[illegible]
Mean Mag. D[illegible]

/ Meridian, Colorado



SEE SUPPLEMENTAL DIAGRAMS.

TRACT No	Sections	Entry and Entryman	Original Description
37	1 T. 35 S. R. 50 W. 36 T. 34 S. R. 50 W.	F. Hd. Edward C. Hamington	W½ N.E¼ and W½ S.E¼ Sec 1 T. 35 S. R. 50 W.
38	2 T. 35 S. R. 50 W. 35 T. 34 S. R. 50 W.	Hd. Charles H. Wood	Lots 1 and 2, S.E¼ N.E¼ Sec 2 T. 35 S. R. 50 W. and S.W¼ S.E¼ Sec. 35 T. 34 S. R. 50 W.
39	2, 3, T. 35 S. R. 50 W. 34, 35 T. 34 S. R. 50 W.	D. L. E. John H. Zurick	Lots 3 and 4, S.E¼ N.W¼ and N.E¼ S.W¼ Sec 2 T. 35 S. R. 50 W.
40	2, 3, 10, 11, T. 35 S., R. 50 W.	F. Hd. Clt. Ed. Eddleman	S½ S.W¼, Sec 2, N½ N.W¼, Sec 11, T. 35 S. R. 50 W.
40A	12, 13 T. 35 S. R. 50 W. 7, 18 T. 35 S. R. 49 W.	F. Hd. Clt. George Jay Cornish	Lot 4 Sec. 7, Lots 1, 2, 3, 4 Sec. 18 T. 35 S. R. 50 W.
41	4 T. 35 S. R. 50 W. 33 T. 34 S. R. 50 W.	Hd. Isaac O. Cochran	Lot 2 Sec. 4 T. 35 S. R. 50 W. S.E¼ S.W¼ and S½ S.E¼ Sec. 33 T. 34 S. R. 50 W.
42	4 T. 35 S. R. 50 W. 33 T. 34 S. R. 50 W.	Forest Lieu S. William E. Moses	Lot 3 Sec. 4, T. 35 S., R. 50 W.
43	4, 5, T. 35 S. R. 50 W. 32, 33 T. 34 S. R. 50 W.	Hd. Horatio C. Arnold	Lot 4 Sec. 4 and Lots 1 and 2 Sec. 5, T. 35 S. R. 50 W. S½ S.W¼ Sec. 33 T. 34 S. R. 50 W.
44	6 T. 35 S. R. 50 W.	Com. to C. E. Leimuel B. Ball	S.E¼ S.W¼ Sec. 6 T. 35 S. R. 50 W.
45	7 T. 35 S. R. 50 W.	F. Hd. Clt. George G. Graham	N.W¼ S.E¼ Sec. 7 T. 35 S. R. 50 W.
46	10 T. 35 S. R. 50 W.	Hd. Charles J. Collins	W½ S.E¼ and E½ S.W¼ Sec 10 T. 35 S. R. 50 W.
47	2, 11, 12 T. 35 S. R. 50 W.	Pre. E. James Stinson	E½ N.E¼ and N.W¼ N.E¼ Sec. 11 S.W¼ N.W¼ Sec. 12 T. 35 S. R. 50 W.
48	8, 9, 16, 17 T. 35 S. R. 50 W.		School Sec 16. Frac. T. 35 S. R. 50 W.

O K L A H O M A

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Public Land 6196.65
Private " " 2563.15

n O o P p Q q R

Total number of Acres 8759.80

Surveys Designated	By Whom Surveyed	No	Date of Contract	Amount of Surveys M Ch Lks	When Surveyed	
East Township line	Arthur B Kibler and Jay D Hester	863	April 20th 1908		Oct. 19th-1908	Resurvey
Subdivisions	" " "	"	" " " "	23 - 28 - 67	Nov 3d-6th 1908	" "
Connections	" " "	"	" " " "	8 - 29 - 83	" " " "	" "
4th Guide Mer West	" " "	"	" " " "		Oct 14th "	" "
6th Aux Cor Line South	" " "	"	" " " "		Oct 14th-15th "	" "
Meander South Bdy Colo	" " "	"	" " " "		Oct 12th to Oct 20th 1908	Retracement

			S½ SW¼, Sec 8, and NE¼
49	28,17 T.35 S.,R.48W.	Hd.Clt. Felix Regnier	NW¼ and Lot 3 Sec 17
			T.35 S.,R.48W.
			SE¼ NE¼ and NE¼ SE
50	5,8,9 T.35 S.,R.48W.	Hd. Ell A. Thomas	¼, Sec 8, and W½ SW¼
			Sec 9 T.35 S.,R.48 W.
51	4,5,8,9 T.36 S. R.48W	Hd. Louis Regnier	S½ NW¼ and W½ NE¼
			Sec. 9 T.35 S.,R.48 W.
			N½ NE¼ and NE¼
52	2,3 T.35 S.,R.48W.	Hd. J.F. McCullough	NW¼ Sec 10 and NW¼ NW
			¼ Sec 11, T 35 S.,R.48 W.
53	11,12, 13, 14, T. 35 S.,R.48W.	T. and S. Cash E. William T. Hughes	Lot 4, Sec. 13 and Lot 1, Sec. 14, T. 35 S.,R.48W.
54	8,9,16,17 T.35 S.,R.48W.		School Section 16 T.35 S.,R.48W.
			NE¼ NE¼ and Lot 1, Sec 13
43	7,18, T. 35 S.,R.48W. 12,13, T.35 S.,R.49W.	Pre. E. John L. Labrier	T.35 S.,R.49 W. and Lots 1 and 2 Sec. 18 T. 35 S.,R.48W.

See Supplemental Diagrams for areas of lots in Sections 13, 14, 16, 17 and 18.

Rossiter Fractional

The above Plat of Township No. 35 South of Range No. 48 West of the 6th Principal Meridian in Colorado, is strictly conformable to the field notes of the survey thereof on file in this office, which have been examined and approved.

Surveyor Generals Office,
Denver Colorado November 6th 1909

W. S. Lewis
Sur. Gen.

DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Washington, D. C. Jan 20, 1922.
I hereby certify that this is a true copy of the plat of survey of the lands to which it relates, on file in this office.

Geo. Dunlap
Assistant Commissioner

k

O K L A H O M A

L

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M

m

N

n O o P p Q q R

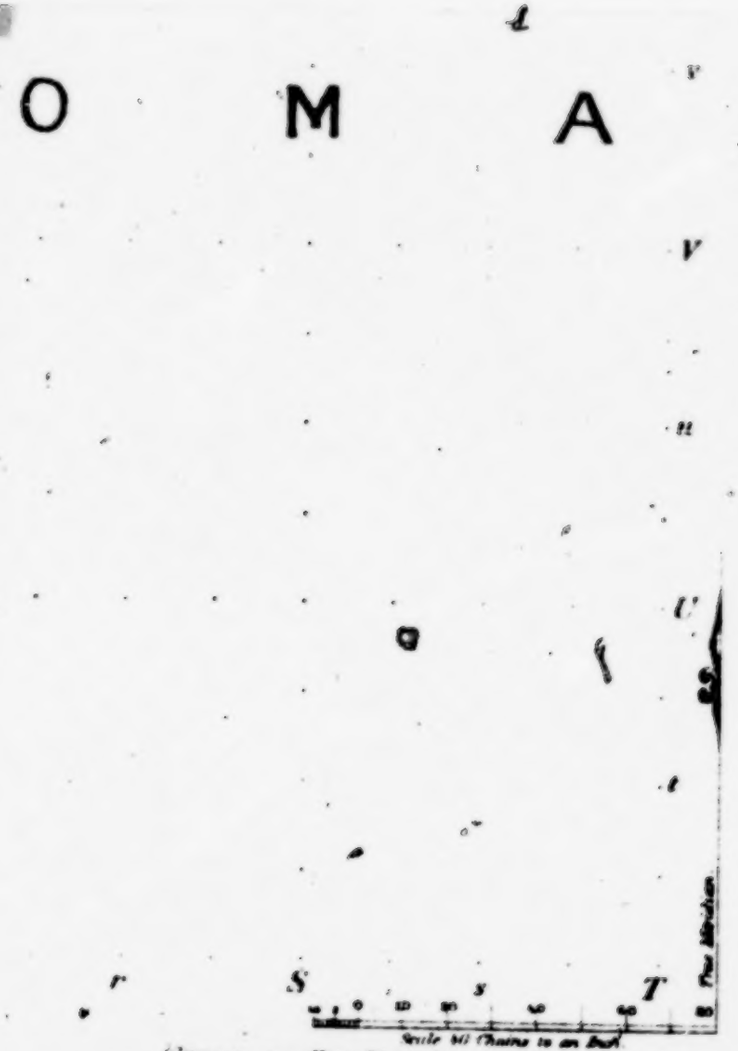
Public Land 7374.80
Private 1516.97

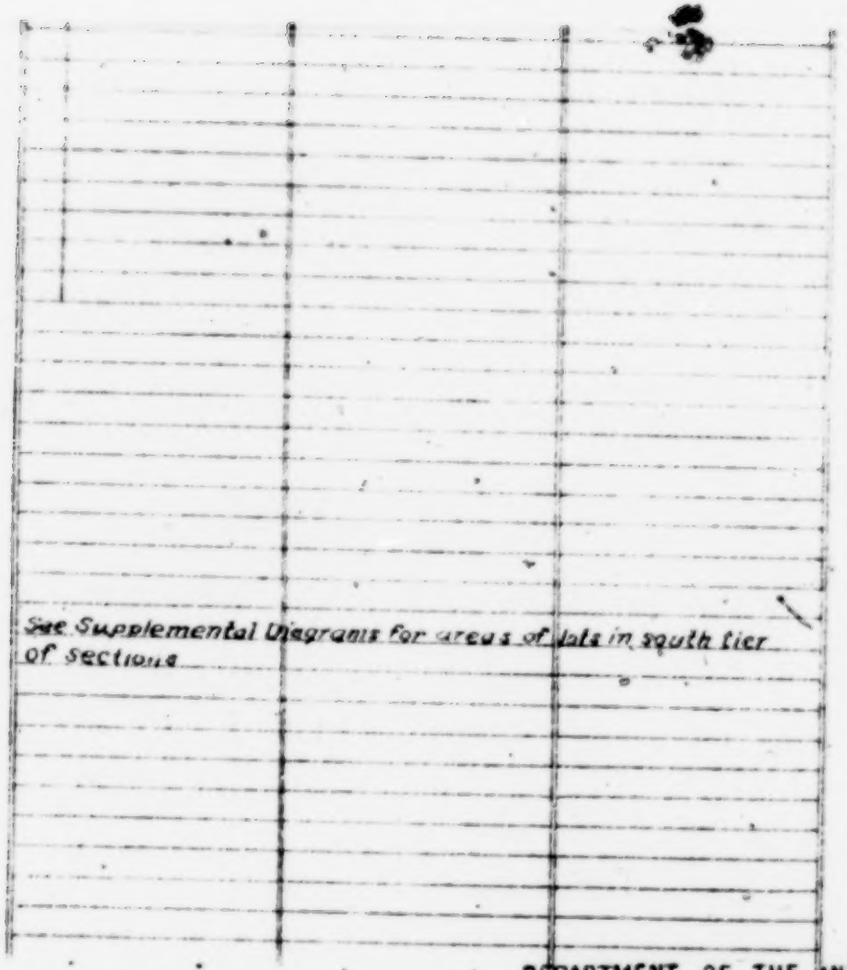
Total number of Acres 8891.77

Surveys Designated	By Whom Surveyed	Date of Contract No.	Amount of Surveys M. Ch.s L.ks	When Surveyed	
West Township line	Arthur D. Ridder and Jay P. Hester	863 April 20, 1908		Oct. 10, 1908	Resurvey
Subdivisions	" " " "	" " " "	23 - 45 - 29	" 25 31, "	"
Connections	" " " "	" " " "	5 - 63 - 16	" " " "	"
6th Aux. Corr. Line S.	" " " "	" " " "		" 12 13, "	"
6th Guide Mer West.	" " " "	" " " "		" 14, "	"
Major South Bdy Colo	" " " "	" " " "		" 9 12, "	Retracement

O

Orig Whyte
Copy G.W.W.





See Supplemental Diagrams for areas of lots in south tier of sections

DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Washington, D. C. Jan. 20, 1922
I hereby certify that this is a true copy of the plat of survey of the lands to which it relates, on file in this office.

Assistant Commissioner.

Resurvey Fractional

The above Map of Township No. 35 South of Range No. 49 West of the 6th Principal Meridian in Colorado is strictly conformable to the field notes of the survey thereof on file in this Office, which have been examined and approved.

Surveyor Generals Office
Denver, Colo. November 6th 1919

Sur. Gen.

NEW MEXICO

OKLAHOMA

Preston N.E. Co

K W

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L V°

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M t

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N r

n Q q P p Q q R

Public Land 7347.46
Private Land 1339.34

Total number of Acres 868680

Surveys Designated	By Whom Surveyed	Date of Contract No.		Amount of Surveys M. Ch. L.	When Surveyed	
E. Township line	Arthur D. Kidder, Dep. Surv.	863	April 20 1908		October 10 1908	Reservey
Subdivisions	" " " " "	"	" " "	23 - 23 - 53	October 11 17, 1908	"
Connections	" " " " "	"	" " "	3 - 77 - 71	" " " "	"
6th Aux Cor Line S	" " " " "	"	" "		" 10 "	"
W. Township Line	" " " " "	"	" "		" 8 "	Re established
Major S Bdy Cole	" " " " "	"	" "		" 7 9 "	Retracement

C W S Orig.

46	10.T.35S.R.50W.	Hd. Charles J. Collins	W½ SE¼ and E½ SW¼ Sec 10 T.35S. R.50W.
47	2.11.12.T.35S. R.50W.	Pre. E. James Stinson	E½ NE¼ and NW¼ NE¼ Sec 11. SW¼ NW¼ Sec 12 T.35S.R.50W.
48	8.9.16.17.T.35 S. R.50W.		School Sec 16. Frac. T.35S. R.50W.

Note - See supplemental diagrams for areas of lots in Sections 13.16 and 17

Resurvey Fractional

The above Map of Township No. 35 South of Range No. 50 West of the 6th Principal Meridian in Colorado is strictly conformable to the field notes of the survey thereof on file in this Office, which have been examined and approved.

Surveyor Generals Office
Denver Colorado, November 6th 1909

W. G. Lewis
Sur. Gen.

DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Washington, D. C., Jan. 20, 1922

I hereby certify that this is a true copy of the plat of survey of the lands to which it relates, on file in this office.

Geo. Wilson
Assistant Commissioner

Q. How long have you held the position of supervisor?

A. Since the inauguration of what is known as the direct system of surveys, from June 25, 1910.

Q. Prior to that time what had been your occupation or official position, if any?

A. In the fall of 1895 I entered the employ of the United States Geological Survey and served in that bureau until early in 1899 when I entered the general land office as an examiner of surveys. In 1905 I resigned from the general land office and entered the private engineering practice in Wyoming, a larger part of my work being the execution of public land surveys under contract with the United States government. On the abolition of the contract system by Congress, June 25, 1910, I was appointed supervisor of surveys of the general land office.

[fol. 778] Q. In the course of your official work under the general land office, have you had occasion to make any examination of the surveys of the southern boundary line of Colorado?

A. I have.

Q. When was the first,—when did you first begin any examination of that kind?

A. The first examination was when I was instructed to examine the east boundary line of the Southern Ute Indian Reservation, the southeast corner of which was on the southern boundary of Colorado.

Q. When was that?

A. In 1899.

Q. Mr. Johnson was that southeast corner of the Indian Reservation on what is now known as the Darling line, or what did you discover, if anything upon that subject?

A. I rejected the survey of the east boundary of the Ute Reservation as executed by George F. Ober. I cannot recall what I found at the southeast corner of the Indian reservation without referring to the record.

Q. We do not want you to rely on your memory.

A. (After referring to the records.) The Darling line could not be found at that point.

Q. Did your instructions include or require how you should relocate the corner of the Indian Reservation on the Darling line?

A. No, sir.

Q. Only that you should locate on the south boundary of Colorado?

A. Yes, I had no instructions to locate corners.

Q. What was the purport of your instructions merely?

A. Primarily to examine the survey of the east boundary of the Southern Ute Indian Reservation as executed by Ober. It was necessary to find the Darling corner in order to make a proper examination.

[fol. 779] Q. Did Ober survey to correct that corner, or to locate that corner on the Darling line; do you recollect as to that?

A. I do not recall.

Q. You say the Darling line could not be located at that place?

A. No. It could not.

Q. To what extent did you make an examination or search of the Darling line in that vicinity?

A. I made an exhaustive search.

Q. What did that consist of?

A. I made an exhaustive search westerly to the vicinity of the Navajo river and easterly beyond the town of Edith.

Q. State what you found; you found some markings on the Darling line in that vicinity in that extended examination, did you not?

A. I do not think that I found any evidences of the Darling line in the examination that I made that year, but was able to determine the general position of the line from the original field notes.

Q. You had Darling's field notes at that time?

A. I did, in 1899.

Q. What did you find as to bearings or the location of the southeastern corner of the Indian reservation?

A. I was unable to determine whether it was on the old Darling line or not.

Q. Was that one of your reasons for your rejecting the survey of the east line of the Indian reservation?

A. I cannot recall. I am certain, however, that the east boundary was defective in alignment and measurement, which alone would have been cause for recommending rejection of the survey.

Q. From how many miles did you make that search east and west from the supposed point of the southeast corner of the Southern Ute Indian Reservation, in your effort to discover some evidence of the Darling line, approximately?

A. Approximately fifteen miles.

[fol. 780] In that fifteen miles, even with the assistance of Darling's notes you were not able to discover on the ground evidences of his survey?

A. Not, as I recall, any evidences of the original survey.

Q. That was in 1899?

A. Yes sir.

Q. When next did you have occasion to make any examination of the line in question upon the southern boundary of Colorado?

A. The next year, 1900.

Q. Did you make a further examination at that time under the instructions of the land office?

A. Under the instructions of the commissioner of the general land office, yes sir.

Q. As shown by those instructions what was the purpose and object of the examination you were then directed to make?

A. As I recall it, to report survey conditions on and along the Darling line.

Q. Was it one of the purposes of your examination to attempt to identify and relocate the Darling line on the earth's surface?

A. The purpose was to find and identify the Darling line.

Q. Was it one of the purposes of your examination to do that?

A. It was.

Q. And to what extent was that examination devoted to that purpose, that is for how great a distance along the line?

A. The examination included the line between the sixth and eighth astronomical monuments of the Darling survey.

Q. Can you state by reference to any settlements or towns or locations; by that means can you give the location over or along the line of these monuments?

A. Yes; astronomical station number six on the Darling survey was near the head of the Toltec gorge, near the railroad station of Osier. Astronomical station number seven was in the valley of the Navajo river at about the southwest corner of the town of Edith. [fol. 781] And astronomical monument number eight was in the general vicinity of Arboles on the Denver and Rio Grande Western Railroad.

Q. About how many miles of that line did that cover?

A. Sixty miles of the line.

Q. Along that sixty miles how far were you able to identify or find markings on the earth's surface of the Darling line?

A. Astronomical station number six of the Darling survey was found and fully identified as were also a number of the corners of the original survey to the west across the Conejos range; but none were found in the valley of the Navajo river, with the exception of a stone found to the southwest of the position of astronomical monument number seven. This stone was marked and buried in the ground. Its position was pointed out to me by old residents of the valley.

Q. The markings on that stone correspond to what was set out in the Darling notes?

A. This stone was not mentioned in the Darling survey as I recall it, but it was at the terminal of the line run by me from astronomical monument number six.

Q. There was no mention in the records of the Darling survey?

A. Not that I recall.

Q. Your survey was run in a westerly direction?

A. Run westerly, yes sir.

Q. How far was that stone that you found from the proper location of astronomical monument number seven as shown by Darling's notes?

A. I am unable at this time to give the exact distance.

Q. Approximatey?

A. It was approximately thirty-five chains.

Q. The old residents pointed out that stone to you?

A. Yes.

Q. What did they state to you as to what it meant?

A. The old residents thought that the stone was a monument on the Darling survey. Some of them claimed to remember when the [fol. 782] surveyors came over the mountain from the east side and set that stone.

Q. The stone was southwest of the proper location of monument number seven?

A. Yes, sir.

Q. About thirty-five chains?

A. Yes, sir.

Q. From that point where the stone was, did you project the old line further west, or did you go to the proper location of seven as shown by Darling's notes?

A. I continued my examination on west from the stone pointed out to me but found no evidences there of the original line, such as blazed trees as I had found on the line to the east thereof.

Q. You did find blazed trees coming from the east up to the vicinity of what was pointed out as the location of that stone?

A. Yes, sir.

Q. Up to the vicinity of where that stone was found?

A. Yes, sir.

Q. How did you identify the location of Darling's monument seven,—by bearing shown in original notes?

A. Yes, sir; from the bearings to mountain peaks noted in the original notes it was possible to find the point from which they all check fairly well.

Q. Did you then continue your examination and attempt to retrace the Darling line west of monument number seven?

A. Yes, sir.

Q. What did you find?

A. As I recall it I found evidences on the two hundred and seventeenth mile corner of the Darling survey and the two hundred and thirty-fifth mile corner of the Darling,—of the same survey.

Q. How far is the two hundred and seventeenth mile corner from [fol 783] monument seven?

A. Between two and three miles.

Q. You found no mile corners between the two?

A. No.

Q. Between monument seven and the two hundred and seventeenth mile corner?

That is correct.

Q. Did you find any mile corners between two hundred and seventeenth and two hundred and thirty-fifth mile corners?

A. No, sir.

Q. Or any other evidences of the Darling line?

A. I found the eighth astronomical station about—between six and seven miles west of the two hundred and thirty-fifth mile corner—westerly.

Q. Did you find mile corners between the two hundred and thirty-fifth and monument number eight?

A. No, sir.

Q. Your attempted identification and examination of the Darling line terminated at monument number eight?

A. Under the instructions mentioned. I have had occasion though to check on the Darling line at various times at other places.

Q. Do you know if the detailed instructions disclosed why this examination and identification of the line was sought by the land office?

A. Simply for the purpose of developing the true condition of the old Darling line, with a view to possible recommendation as to its restoration.

Q. Did you later have occasion to make further examinations or search for the Darling line?

A. In 1901 I continued my investigations of the Darling line.

Q. What part of the line?

A. I examined various parts of the line between the sixth and eighth astronomical stations.

[fol. 784] Q. The same part of the line that you had previously been over?

A. Yes, sir.

Q. Were you able to develop any additional information or means of identification of the line between those monuments than what you had previously found in 1900?

A. I endeavored in 1901 to retrace the boundary lines of the Tierra Amarilla Grant and the Jicarilla Apache Indian Aeservation, east boundary, in the hope of finding closing corners upon the Darling line, but was unable to find such corners. I also made further retracements or examination of the evidence I had developed the year before.

Q. Did the surveys of the Tierra Amarilla Grant and of the Jicarilla Apache Indian Reservation purport to close on the Darling line or have any connection with it?

A. The west boundary of the Tierra Amarilla Grant was resurveyed probably the year before under contract and was reported to have closed on the Darling line. The east boundary of the Jicarilla Apache Indian Reservation, as I recall, was supposed to have closed on the Darling line. I found no evidences of closing corners on either one.

Q. You had the notes those surveyors made of the Indian Reservation?

A. Yes, sir.

Q. And even with the assistance of those notes you could not identify their closing on the Darling line?

A. No, sir.

Examiner Luther: It is 12.35 p. m. and we better recess. To what time?

Mr. Keyes: We had better recess until 2 p. m.

Mr. Claney: All right.

Examiner Luther: Recess will be taken until 2 p. m.

Afternoon Session, Second Day, July 18, 1922

Examiner Luther: You may proceed, gentlemen.

[fol. 785] Mr. Claney: What was the last question this morning?

Examiner Luther: "And even with the assistance of those notes you could not identify their closing on the Darling line?" The answer was, "No, sir."

Mr. Clancy: I do not know whether or not I asked you before recess at the forenoon session, how much of the line, the Darling line, you determined in 1901, or attempted to determine in 1901?

Mr. Johnson: I examined portions of the Darling line between astronomical stations numbers six and eight.

Q. What if anything did you learn from that examination in addition to the examination of the year before, or two years before?

A. I verified my findings of the year before, and also made further attempts, by considering collateral evidence, to find new corners.

Q. What was the result of those attempts?

A. As I recall I found no further evidence of additional corners on the Darling line between these monuments.

Q. Did you have occasion—do you know the reasons why you were instructed to make this further examination in 1901?

A. I do not recall the specific reasons at this time.

Q. Was it or not on account of your report, or what you had found in your previous examinations, or did not find for that matter?

A. It is my recollection that I was instructed to complete the work of examination between these astronomical monuments.

Q. Did you have occasion afterwards to make any further attempt at examination and identification of the Darling line?

A. (The witness hesitating a moment, stating:) Wait a minute, I want to find a date.

Q. All right?

A. In 1917, as I recall, the question arose on which line public [fol. 786] land surveys should be closed and I took up the matter with the commissioner of the general land office and was instructed to reestablish the Darling line in the general vicinity of Edith for the purpose of establishing a line on which surveys could be closed.

Q. Under these instructions what did you do?

A. I instructed William C. Perkins, United States Surveyor, to reestablish the Darling line thru ranges one, two, three, and four west of the New Mexico Principal Meridian, and eastward from range one, west to Ewell Canyon, and to continue from Darling's two hundred and sixth mile corner west to Ewell Canon, the ends of these two lines to be connected by an oblique line.

Q. You must have had at that time information that the two hundred and sixth mile corner was not on a line which continued from the place described, in your office?

A. I had that information.

Q. How did you learn that fact?

A. That information was gained thru examinations in 1900 and 1901 and by subsequent examinations in 1917.

Q. One of those lines coming from the east reached Ewell Canon at a point considerably south of the other line coming from the west?

A. Yes sir.

Q. What was the difference in chains or feet between the two lines?

A. As I recall about thirty chains in altitude.

Q. From your examination of Darling's notes can you explain to us how much—how many such discrepancies may have occurred; and if so, tell us?

A. There is nothing in Darling's notes to indicate that such a discrepancy existed. His notes show a continuous line from astronomical station number six west. I may say, however, that Darling's [fol. 787] line from astronomical station number six crosses the Conejos mountain range which is heavily timbered and covered with dense brush. The examination revealed the fact that his line was practically west in any bearing it had from astronomical station number six, which is near his one hundred and eighty-first mile corner, to his one hundred and ninety-sixth mile corner.

Q. From there how does it deflect?

A. That from there the line deflects to the south to his two hundred and first mile corner.

Q. How far to the south?

A. Eleven chains.

Q. From where?

A. From the two hundred and first mile corner the general bearing of the line is a little south of west.

Q. To where?

A. Until it reaches the marked stone previously referred to on the west bank of the Navajo river.

Q. As I recollect you have testified that east of that stone you did not find any mile corners for a considerable distance, I do not remember how far?

A. East of this stone no corners on the Darling line were found to the 206th mile corner.

Q. Have you reached that stone by a prolongation from the 206th mile corner?

A. Yes sir.

Q. How then did you discover this other line which you say was thirty-five chains in latitude north of the line where the 206th mile corner was?

A. By locating the approximate position of astronomical monument number seven by bearings according to the notes to the several mountain peaks; then by continuing westward and finding the 217th mile corner and 235th mile corner and astronomical monument number eight.

[fol. 788] Q. Was astronomical monument number seven east or west of the two hundred and sixth mile corner?

A. Westerly.

Q. Or thirty-five chains north from the prolongation of that line?

A. The approximate location of astronomical monument number seven, as I recall it, is a little more than thirty chains north of the prolongation of the line westerly from the two hundred and sixth mile corner, or close to thirty-five chains northeasterly from the marked stone on the bank of the Navajo river.

Q. Based on Darling's notes you assume what must have been done?

A. Darling, in his survey, made observations for latitude at intervals of about thirty miles along the line, and was supposed to connect his astronomical monuments by a continuous line. It appears, however, from the examinations made on the ground, that he made his observations for latitude on the bank of the Navajo river at the seventh astronomical station, and found that he was close to thirty chains south of the parallel. It then appears from the examination that he moved north from his point of observation a proper distance and easterly to a convenient place and there established astronomical station number seven; it then appears that he continued his line east to Ewell canon and then westerly on the parallel of latitude.

Q. After having corrected his location of monument number seven he went back eastwardly only as far as Ewell canon, but not far enough to make connection with monument number six?

A. Yes sir.

Q. In order to make a continuous correct line between monuments six and seven, he should have gone back as far as monument number six?

A. Yes sir. His failure to do that accounts for the jog or deviation or discrepancy found.

Q. Between points east and west of Ewell canon?

A. Yes sir.

[fol. 789] Q. What, if anything have you had to do with the Carpenter survey? Have you had anything to do with it officially?

A. I examined the Carpenter survey in the fall of 1903.

Q. Did that examination extend over the whole of his survey?

A. Yes, sir. But the line was examined in detail only at certain intervals, as to bearing and measurement, the correctness of corner monuments, and any other work required of him in his contract with the general land office.

Q. Was your examination sufficient to enable you to make a report as to the correctness of Mr. Carpenter's work?

A. Yes, sir.

Q. What in substance did you report as the result of your examination?

Mr. Ramsey: We wish to make objections to the questions and answers thereto upon the ground that the correctness or the incorrectness of the Carpenter survey is incompetent, irrelevant and immaterial, and no issue in this cause.

Examiner Luther: Answer the question?

Mr. Johnson: What was it?

(The examiner repeated the question last aforesaid.)

Mr. Johnson (continuing): I reported that the survey as executed by Carpenter was in general excellent work and that the work taken as a whole was of the highest order.

Mr. Clancy: Did you or did you not find that the line as surveyed by him connected with each of the eight astronomical monuments?

Mr. Johnson: Yes.

Q. As established by his astronomers?

A. Yes.

Q. Mr Johnson, in view of my ignorance of these technical subjects I will ask you if there is anything else that occurs to you, with your superior knowledge of these things, which would be of any importance to either side in this controversy—that you can tell us [fol. 790] about? We want anything of any assistance offered for the benefit of either side. Can you give us anything of any assistance or any value to either side? Can you give us anything that will shed any more light in this controversy, or which will be of any value to either side, whether covered by previous questions or not? I make this request to give anything you can in addition to what I have already asked you?

I think that you understand that from my point of view at least, the serious controversy here is,

"Whether the Darling survey or the Carpenter survey is the more accurate, as to the fixing on the earth's surface of the thirty-seventh parallel of latitude?"

With that statement I think that the early part of my question will be so limited that you will not be at a loss to answer it?

Within the limits of your knowledge tell us anything that would be of interest or that will shed light upon this controversy, as I view it?

A. The result of my examination of the line between Colorado and New Mexico has convinced me that both Darling and Carpenter determined the parallel of latitude in accordance with their instructions from the commissioner of the general land office as far as astronomical work is concerned. Darling made an error in running his line west from his one hundred and ninety-sixth mile corner. Had he properly established his line back from his seventh astronomical monument to his sixth astronomical monument, (which as I have said crosses an extremely rough and broken moun- [fol. 791] tainous country, the present controversy probably would not have arisen, but he threw the whole error practically at one place, thus causing a break in the line of such magnitude that it was impossible to close public surveys thereon with any degree of consistency.

The Carpenter survey was executed under a contract with the commissioner of the general land office and under special instructions. Carpenter made an excellent survey in accordance with his instructions and therefore complied with the terms of his contract.

Q. Have you formed any opinion or reached any conclusion as to which of these surveys more closely approximates the line of the thirty-seventh parallel of north latitude?

A. I have made no astronomical tests, no sir.

Q. That is not exactly my question, but rather as to whether you have formed any opinion as to which of the two lines more closely approximates the thirty-seventh parallel of latitude? The implication from your answer is that you have not formed such opinion or conclusion because astronomical tests would necessarily be the best basis for such an opinion?

A. Yes sir.
Q. And you have not made it?
A. No sir.
Q. Anything more you think of?
A. No.
Q. If not I think that is all I want to ask of Mr. Johnson.

Cross-examination by V. E. Keyes, Attorney General and counsel for defendant, the State of Colorado.

Q. As far as you know the stations set by Darling were correct?
A. Yes sir; as far as I know.
[fol. 792] Q. Is it not true, Mr. Johnson, that all public surveys in the vicinity of the thirty-seventh parallel north latitude, and between the one hundred and third and the one hundred and ninth meridians, are now closed on the Darling line?
A. Yes, sir, with one exception, range four, west of the New Mexico Principal Meridian, on which they were closed on the Carpenter line. But it is my recollection that these surveys were later made and changed to close on the established Darling line.
Q. Is it not true that for all administrative purposes the United States Land Office recognizes but one boundary line between New Mexico and Colorado, and that the boundary line is the so-called Darling line?
A. The general land office for administrative purposes recognizes the Darling line as the subsisting boundary line.
Q. Is there any other line recognized by the general land office as the subsisting boundary?
A. No, sir.
Q. Which of these lines was originally surveyed?
A. The Darling line.
Q. Is it not true that this original Darling line was approved by the general land office in the year 1869 and that ever since said time, said Darling line has been, and now is, the subsisting boundary between Colorado and New Mexico?
A. It is my understanding that the Darling line was accepted by the commissioner of the general land office shortly after its execution and has been used since as the boundary line between Colorado and New Mexico.
Q. That being true what was the boundary line recognized by the land office in the year 1876 when Colorado became a state?
A. At that time the general land office recognized the Darling line as the boundary between Colorado and New Mexico.
[fol. 793] Q. What was the line recognized by the United States Land Office as the subsisting boundary line between Colorado and New Mexico in the year 1912 when New Mexico was admitted into the Union of States?
A. The general land office in its administrative work has considered the Darling line at all times, with the exception mentioned, which has since been corrected, and recognized the Darling line as the boundary between the two jurisdictions.

Q. Is it not a fact that all of the public lands in the vicinity of the thirty-seventh parallel of latitude between Colorado and New Mexico has been patented by the United States?

A. I am not informed as to the extent of the dispositions of lands along the line; but the notes show that the two lines run very close to towns, and I can only assume land there, is patented land, and also in the valleys crossed by the line.

Q. Is it not true that the surveys for such patents as have been issued by the United States in the vicinity of the thirty-seventh parallel of latitude, between the one hundred and third and the one hundred and ninth meridians, have all been closed on the Darling line?

A. The official plats of record used as the basis for the disposition of the lands, considered the Darling line as the limiting boundary.

Q. That being true, the surveys of all lands patented by the United States in that vicinity would be closed on the Darling line?

A. If any lands have been patented along the line, the Darling line has been the limiting boundary.

[fol. 794] Q. Is it not true that in the fifty-three years that the Darling line has been recognized as the subsisting boundary between Colorado and New Mexico, that many private rights have attached, based upon the Darling survey?

A. I am not informed as to that.

Q. It is true, is it not, that the Darling line has been recognized as the subsisting boundary between Colorado and New Mexico for a period of fifty-three years?

A. Recognized by the general land office.

Q. And that if patents have been issued in the vicinity of such line the surveys for such patents have been closed on the Darling line?

A. Yes, sir.

Q. You may state whether or not, during the last fifty-three years political subdivisions, such as counties, school districts, municipalities and voting precincts, etc., in the vicinity of the thirty-seventh parallel of latitude, between Colorado and New Mexico, have been closed on the Darling survey?

A. I think that is true.

Q. Have political divisions in the territory mentioned—school districts, voting precincts, counties, and the like—been closed on any other line of survey, so far as you know?

A. Not to my knowledge, no sir.

Q. Do you understand that for many years last past the following in substance has been the rule and policy of the general land office of the United States, "Notwithstanding the different locations of the monuments which were supposed to have been established upon the thirty-seventh parallel of latitude, this office is of the opinion that for all administrative purposes the line established by E. N. Darling in 1868, wherever its location can be identified beyond a reasonable doubt, should be recognized as the boundary line."?

A. I understand that to be the policy of the general land office.

[fol. 795] Q. Do you understand this to be the policy of the gen-

eral land office, "When it is understood that an error of one second of arc of latitude is equivalent to an error of about 169 feet measured upon the earth's surface, no two independent establishments of a parallel of latitude can be in exact agreement."?

A. I have not qualified as an astronomical expert, but that is a matter within the general knowledge of the United States Land Office. The statement is true, unless the same stations are occupied in different observations.

Q. Astronomical stations?

A. Yes.

Q. Do you also understand this to be true and the rule of the general land office: "In conclusion it may be added that to reestablish the boundary at any other location excepting in its original position would cause complications and unduly disturb the legal titles to numerous parcels of land acquired in good faith."?

A. I understand that to be the conclusion of the general land office.

Q. Is it not a fact that the so-called line established by Carpenter was never officially adopted as the boundary line between New Mexico and Colorado, and that the action taken at the land office, in accepting the Carpenter survey, is to be interpreted merely as indicating that Surveyor Carpenter complied in full with all the terms of the contract entered into between him and the general land office of the United States?

A. It is my understanding that the Carpenter survey was accepted by the commissioner of the general land office and Carpenter was paid the amount due him under the contract for doing the work. I also understand that a joint resolution of congress declared the Carpenter line was the boundary line between Colorado and New Mexico, [fol. 796] but that this resolution was later vetoed by President Roosevelt.

Q. This being true is it not the attitude of the general land office that the Carpenter line was never approved by competent authority, and that therefore the Darling line is the subsisting boundary line between the states of New Mexico and Colorado?

A. It is my understanding that because of the presidential veto, the general land office held that the Darling line for administrative purposes is still the boundary between the two states or jurisdictions.

Q. In view of the fact that for a period of approximately fifty-three years the Darling line has been recognized as the subsisting boundary between Colorado and New Mexico, that all public surveys have been closed upon the Darling line, that surveys for patents, such as have been issued, have likewise been closed upon the Darling line, that surveys for all political subdivisions, such as school districts, voting precincts, towns and counties, have been closed upon the Darling line—that being true, would it not in your opinion "cause complications and unduly disturb the legal titles to numerous parcels of land acquired in good faith" to now substitute any other line for the Darling line?

A. I do not feel Mr. Keyes that I am competent to pass upon whether it would disturb titles or not in such event.

Q. What would be the effect upon the records of the general land office to substitute any other line for the Darling line which has been the subsisting boundary line between Colorado and New Mexico for a period of about fifty-three years?

A. If it should be decided that the Darling line is not the boundary between Colorado and New Mexico, in all probability the public land surveys would be closed on the new line, and the question of the titles to the lands affected would be passed upon by the de- [fol. 797] partment and the courts in my opinion.

Q. Would this require a change of all public surveys in the United States Land Office in the vicinity of the thirty-seventh parallel?

A. Yes, sir, to some extent; the public land surveys would be closed upon the new line.

Q. While at the present time and at all times during the last fifty-three years the public surveys have been closed on the Darling line?

A. Yes, sir.

Q. Go ahead Mr. Ramsey, if you have any questions.

Further cross-examination conducted by Wm. R. Ramsey, assistant attorney general and also of counsel for defendant, the State of Colorado:

Mr. Ramsey: All right. Is it not true Mr. Johnson that at the time that the Carpenter survey was made in 1902 the boundary line between Colorado and New Mexico was the Darling line?

Mr. Johnson: It was the line recognized by the general land office as the boundary line between the two states.

Q. Then at the time that Mr. Carpenter executed his resurvey instead of resurveying, and remarking, and reestablishing the original line, he made, determi[illegible] and fixed a new and independent line, did he not?

A. Mr. Carpenter made an independent resurvey based on astronomical observations—determinations.

[fol. 798] Q. Are you able to state with any degree of accuracy the variance in distance between the Carpenter line and the Darling line?

A. I have never compared the two lines with a view to determining that.

Q. Approximately is it not somewhere from a half a mile or more?

A. It is my recollection that the lines are coincident in places, and that the greatest variance is close to a half a mile.

Q. State whether or not it is true that the east corner established by Carpenter is a half mile or more north of the original corner established by Darling?

A. I remember that there is a material difference in latitude, but I do not remember the distance.

Q. Then if there is a difference in the eastern or southeastern corner of Colorado, which is now the common corner between Colo-

rado and Kansas, which would be the southwestern corner of Kansas, if the Carpenter line should be established as the true boundary, would not that affect the corner—the southwest corner of Kansas?

A. I think that would only be a question of law. I cannot see how it would affect Kansas in any way. I do not know what the calls for the southern boundary of Kansas are.

Q. If the southern boundary of Kansas should be the thirty-seventh parallel of latitude north, and the Darling line is correctly established that corner upon the thirty-seventh parallel of north latitude, then if it should appear that the thirty-seventh parallel of latitude would be further north, in Colorado, would not that also be further north in Kansas?

[fol. 798] A. It would be evident that the determination of the thirty-seventh parallel of latitude that you spoke of in Colorado would not be a continuous line across the south boundary of Kansas, but different methods may have been employed in the establishment of the two parallels.

Q. What would be the effect if the Carpenter line should be substituted in lieu of the Darling line as the boundary line between Colorado and New Mexico—I mean with respect to territory?

A. It is my recollection from looking at the maps, that New Mexico would get a little more territory than should it be along the Darling line.

Q. And consequently Colorado would lose some territory?

A. Yes sir, a scant bit.

Q. That strip extends clear across the entire extent of the state, does it not?

A. It is my recollection that the line is coincident towards the west end; also the difference from the Navajo river westward is probably not greater than ten chains.

Q. The distance of territory removed from Colorado would extend the entire length of the state, with the exception then of the points that are coincident that you have mentioned as being coincident?

A. I am not sufficiently informed on the subject, Mr. Ramsey, to say.

Q. Is it not true that such a change from the old line to the new line would necessitate changing in the boundary lines of six counties in Colorado and five counties in New Mexico?

A. I have never looked into that. We have nothing to do with the establishment of county boundaries at all.

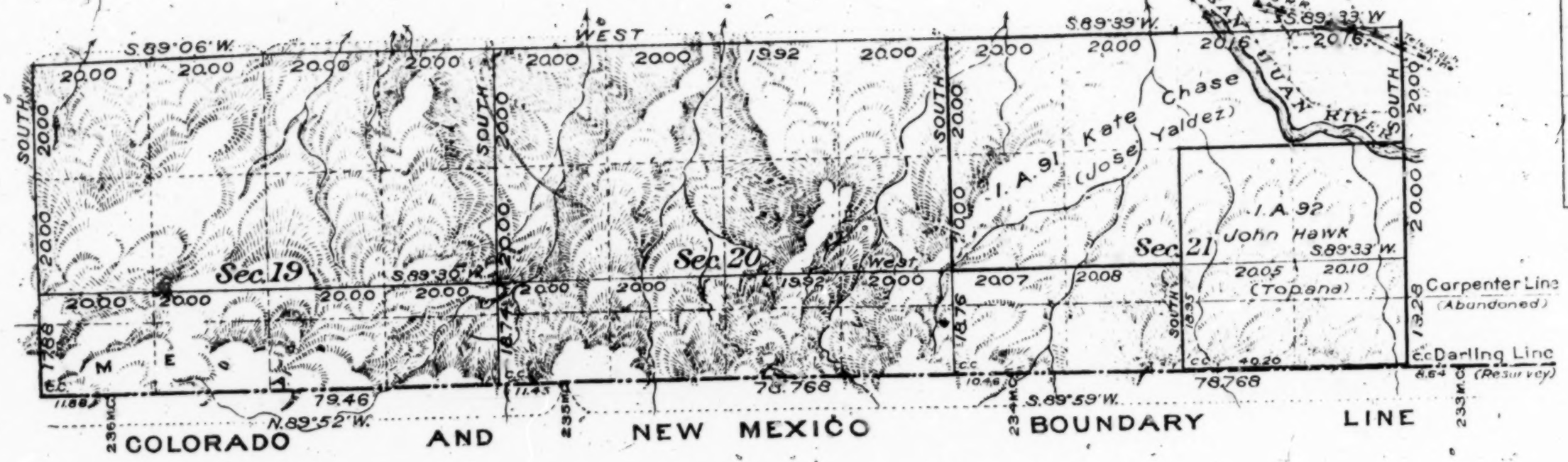
[fol. 800] Q. If I understood your answers to counsel's questions, and as to one of the questions asked, you stated there had been a restoration survey made by William C. Perkins in the year 1917 under your directions?

A. Yes, sir.

Q. Then it is possible to restore the Darling line and it has been done?

A. About thirty miles of the Darling line in the general vicinity of Edith has been restored. It is my opinion that other portions of the line can be restored.

TRACT NO.	SEC
25	2
26	
27	2
28	



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TRACT NO.	SECTIONS	ENTRY and ENTRYMAN	ORIGINAL DESCRIPTION	ACRES
25	23-24	H.E.012601 Demetrio Madrid	Lots 2,3,4, Sec.10,T.32 N.,R.4W.(New Mexico)Pat.	155.09
26	23	H.E.012760 J. D. Sandoval	Lots 1,2,Sec.9,T.32N.,R. 4W.(New Mexico) Pat.	103.44
27	22-23	H.E.012188 Roque Gallegos	Lot 1,Sec.8,Lots 3,4 Sec 9,T.32N.,R.4W. (New Mexico) Pat.	155.20
28	24	H.E.012625 Antonio Naranjo	SE¼SE¼ Sec.10,Lot 4,SW¼ SW¼,Sec.11,NW¼NW¼,Sec. 14, T.32N., R.4W. (New Mexico) Pat.	171.49

	AREAS IN CONFLICT	
TRACT NO.	WITH ENTRY	ACRES
25	H.E.03189	9.88
"	I.A.87	37.40
"	I.A.88	23.71
26	I.A.72	36.87
"	I.A.87	9.79
27	I.A.72	10.32
"	I.A.130	13.41
"	I.A.153	23.88
"	I.A.174	23.72
28	H.E.1511	13.72
"	H.E.1528	9.92

PRICE 50 CENTS

30' 109° 30' 108° 30'

26 Miles from Wamsutter

Dad

S W E E T W A T E R

W Y O M I N G

C O L O R A D O

41°

D A G G E T T

Sparks

Ladore

Greystone

Sunbeam

Maybell

Dixon

Baggs

Savery

Slater

Snake

Great Divide

Fortification

Jackrabbit

Lay

CRAIG

DENVER

Juniper Springs

Cross Mountain

Lily

Knighall

Massadona

Caisson

Angora

Price Creek

Aerial

Mount Streeter

Hamilton

Pagoda

Cary Ranch

Thornburg

Morapos

VERNAL

Jensen

Green River

Yampa River

Little Snake River

Bear River

Williams Fork

Sand Creek

Spring Creek

Big Gulch

Coal Creek

Wilson Creek

Milk Creek

Willow Creek

T 11 N

30' 107° 30' 106° 30' 105°

es from Wamsutter

Encampment

CARBON

MILLARD

ALBANY

Millbrook EASTERN LARAMIE

Granite Canon PACIFIC BORIE

Tie Siding UNION

Granum

John

Dixon Baggs Savery Slater Battle Creek Tosh Pearl Paulus

Columbine Hahns Peak Clark Zirkel Northgate Cowdrey

Fortification

Elk Head Deepcreek Mystic Trull

CRAIG DENVER Bear River Milner SALT LAKE STEAMBOAT SPRS.

Cary Ranch Hayden Mt Harris Coalview McGregor Brookston

Eddy Sidney Haybro Oak Creek Phippsburg Yampa

Hamilton Pagoda Dunkley Pinnacle Pallas Pyramid Morapos

ROUTT

JACKSON

Chedsey Walden Hebron Coalmont Larand Dryer Owl Spicer Rand Martin Pearmont Butler

Glendevey Livermore Logcabin Elkhorn Home Waverly Wellington

Virginia Dale Boxelder Cherokee Park Bulger

LARIMER

Bellvue Laporte FT COLLINS Boxelder Timnath

ROCKY MOUNTAIN NATIONAL PARK

Glen Haven Drake Masonville Loveland Pinewood Estes Park Moraine Park Association Camp Longs Peak Berthoud Johnston Grandlake Big Elk Lyons Highland Lake Allenspark Stillwater Peaceful Valley Jamestown Altona Longmont Manarch

30′ 105° 30′ 104° 30′ 103°

LARAMIE

CHEYENNE

KIMBALL

CHEYENNE

LARAMIE

WELD

MORGAN

LOGAN

BOULDER

LARIMER

LARAMIE

Granite Canon

Tie Siding

Virginia Dale

Boxelder

Cherokee Park

Livermore

Logcabin

Waverly

Wellington

Bellvue

Laporte

FT COLLINS

Timnath

Severance

Eaton

Windsor

Lucerne

GREELEY

Evans

Kersey

LaSalle

Peckham

Gilcrest

Platteville

Gowanda

Mead

Firestone

Frederick

Dacono

Erie

Lafayette

Louisville

Superior

Broomfield

Westminster

Arvada

Golden

Denver

Aurora

Littleton

Englewood

Sheridan

Cherry Hills

Glendale

Commerce

Brighton

Henderson

Derby

Welby

Globeville

Argo

Berkley

Edgewater

Lakewood

Wheatridge

Arvada

Golden

Morrison

Bergen Park

Evergreen

Conifer

Kittredge

Idledale

Buckhorn

Mason

Glen Haven

Drake

Estes Park

Loveland

Pinewood

Berthoud

Johnstown

Milliken

Longs Peak

Big Elk

Lyons

Hygiene

Longmont

Peaceful Valley

Jamestown

Altona

Gregson

Sunset

Ward

Nederland

Eldora

Rollinsville

Tolland

Apex

Gross Reservoir

Pinecliffe

Dover

Nunn

Pierce

Ault

Purcell

Camfield

Galeton

Briggsdale

Fosston

Cornish

Barnesville

Osgood

Gill

Tipperary

Evans

Kersey

Hardin

Masters

Orchard

Goodrich

Weldona

Snyder

Vallery

Wiggins

Chapelton

Omar

Crest

Roggen

Wachtel

Bijouview

Keenesburg

Hudson

Lochbuie

Brighton

Fort Lupton

Platteville

Gilcrest

Kersey

Evans

Greeley

Windsor

Severance

Timnath

Laporte

Bellvue

Waverly

Wellington

Livermore

Logcabin

Virginia Dale

Boxelder

Cherokee Park

Granite Canon

Tie Siding

Pinebluff

Bushnell

Kimball

Lodge Pole Creek

Sidney

Lorenzo

Gifford

Armstrong

Laura

Paris

Spurgin

Graham

Kauffman

Westplains

Winston

Proctor

Padroni

Iliff

Grayin

Avalo

Kalaus

Kanta

Buckingham

New Raymer

Stoneham

Willard

Atwood

Sterling

Leroy

Kelly

Schlueter

Merino

Messex

Pawnee

Antelope Spr.

Waitley

Burdett

Hillrose

Ft Morgan

Pinneo

Akron

Otis

Plainer

Padroni

Cedar

Spring Cr

Avalo

Grayin

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Lorenzo

Laura

Paris

Armstrong

Gifford

Kimball

Bushnell

Pinebluff

Cheyenne Junc.

Corlett

Speer

Borie

Carpenter

Hereford

Grover

Sligo

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Pierce

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Purcell

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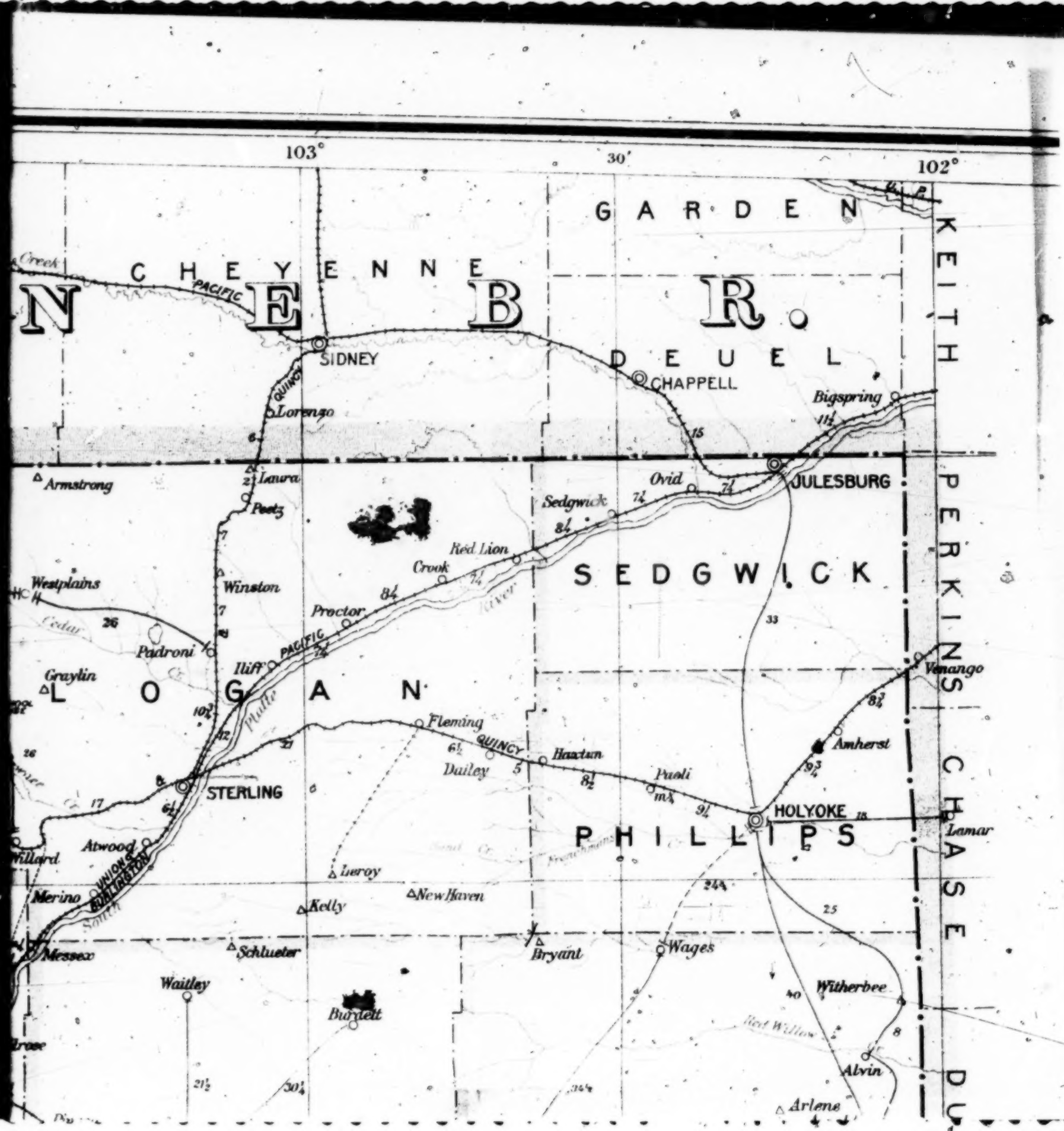
103°
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GARDEN
KEITH
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NEBR.
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SIDNEY
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CHAPPELL
QUINCY
Lorenzo
Bigspring
Armstrong
Laura
JULESBURG
Ovid
Sedgwick
Peetz
Red Lion
Crook
SEDGWICK
Westplains
Winston
Proctor
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Iliff
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LOGAN
Venango
Fleming
Amherst
Haxtun
Dailey
Paoli
STERLING
HOLYOKE
PERKINS
CHASE
PHILLIPS
Lamar
Atwood
Willard
Leroy
Merino
UNION PACIFIC
BURLINGTON
Kelly
New Haven
Messex
Schlueter
Bryant
Wages
Witherbee
Waitley
Burdett
Alvin
Arlene

POST ROUTE MAP

OF THE STATE OF

COLORADO

SHOWING POST OFFICES

WITH THE INTERMEDIATE DISTANCES ON MAIL ROUTES

IN OPERATION ON THE 1st OF JANUARY, 1922

PUBLISHED BY ORDER OF

POSTMASTER GENERAL WILL H. HAYS

Statute Miles

Surveys Designated	By Whom Surveyed	Group No.	Group Date	Amount Ms.	Amount Chs.	Amount Lks.	When Surveyed Begun	When Surveyed Completed
East Boundary	Frederick C. Miller U.S.S.	Colo. 93	June 26, 1918	0	58	84	July 23, 1918	July 23, 1918
West Boundary	Frederick C. Miller U.S. Surveyor	N.M. 79	July 2, 1918	0	57	88	July 29, 1918	July 29, 1918
Portion of Subdivision				18	04	96	July 20 1918	August 2, 1918
Metes and Bounds				5	30	49	August 7, 1918	August 7, 1918
Connections				0	56	00		
Darling South Bdy of Colorado	William C. Perkins U.S.S.		April 27, 1917				1917	1917

This plat of the resurvey of South tier of Sections in Fractional Township No.32 North, Range No. 4 West of the New Mexico Principal Meridian delineates a retracement and reestablishment of the lines of the original survey as shown upon the plat approved Jan. 17, 1883 in their true original position according to the best available evidence of the position of the original corners; all differences between the measurements shown on the original plat and those derived in the retracement have been distributed proportionally between accepted corners in accordance with surveying rules; reference will be made to the original plat for the showing of the areas and more detailed descriptions of the various smaller subdivisions.

DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
Washington, D. C., Jan 20, 1922.
I hereby certify that this is a true copy of the plat of survey of the lands to which it relates, on file in this office.

Geo. Williamson
Assistant Commissioner

The above Map of Resurvey of South tier of Sections in Fractional Township No. 32 North, Range No. 4 West of the New Mexico Principal Meridian, Colorado is strictly conformable to the field notes of the survey thereof on file in this office, which have been examined and approved.

U. S. SURVEYOR GENERAL'S OFFICE.

Denver, Colorado.
October 30, 1920.

John B. McGauran
Surv. Genl.

T 5 N

T 4 S

R 101 W

R 100 W

R 99 W

R 98 W

R 97 W

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R 95 W

R 94 W

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Caisson

Angora

Rangely

Bonanza

Watson

Dragon

Atchee

UINTAH

Highmore

Axial

Mount Streeter

Thornburg

Meeker

Little Beaver

Marvine

Buford

Pleasance

Sulphur

Rioblanco

MEEKER

RIO BLANCO

GARFIELD

MESA

Gavin

DeBeque

Mack

Loma

Fruita

GR RIV VALLEY

WESTERN

Westwater

RIO GRANDE

DENVER

GRAND JUNCTION

Clifton

Cameo

Palisades

Mesa

Collbran

Plateau City

Molina

Heiberger

Vega

Pine Bluff

Glade Park

Whitewater

Grand Valley

Raven

Antlers

Silt

New Castle

South Canon

GLENWOOD SPRS

Cardiff

Carbondale

Marion

Gulch

Rugged Mountain

Red

Hamilton
Pagoda
Dinkley
Martin
Haybro
Oak Creek
Pinnacle
Pallas
Phippsburg
Morapos
Thornbury
Pyramid
Yampa
Pearmont
Toponas
Trublesome
Kremmling
DENVER
Parshall
HOT SULPHUR SPRS.
Granby
Stillwater
Elkdale
Tabernash
Marvine
Buford
Hydrate
Pershing
Radium
Scholl
McCoy
Sheephorn
Burns
State Bridge
Inlet
Eiland
Wolcott
Gypsum
Eagle
Edwards
Avon
Minturn
Gilman
REDCLIFF
Mtn. of the Holy Cross
Pando
Troutville
Tennessee Pass
Kokomo
Crawley
Buffer
Sunnyside
Warriman
LEADVILLE
Arkansas Junc.
Malta
Twin Lakes
Granite
Ashcroft
Castle Peak
Marble
Redstone
Ruggel Mountain
ASPEN
Snowmass
Woody Creek
Gerbazdale
Carbondale
Basalt
Seven Castles
Sloss
Bueli
Meredith
Thomasville
Norrie
Sellar
Nast
Ivanhoe
Marion
Gulch
New Castle
South Canon
GLENWOOD SPRS
Cardiff
Silt
Rifle
Rulison
Grand Valley
Parachute
Battlement Mesa
Debeque
Collbran
Mesa
Palisade
Clifton
Fruita
Grand Junction
Loma
Mack
Whitewater
Gateway
Uravan
Naturita
Nucla
Paradox
Bedrock
Dolores
Cortez
Mancos
Dove Creek
Pleasant View
Yellow Jacket
Delta
Hotchkiss
Crawford
Paonia
Somerset
Redvale
Austin
Olathe
Montrose
Ridgway
Ouray
Silverton
Lake City
Gunnison
Crested Butte
Almont
Tincup
Pitkin
Waunita Hot Spgs.
Parlin
Sargents
Doyleville
Howard
Salida
Poncha Springs
Maysville
Monarch
Garfield
Nathrop
Buena Vista
Johnson Village
Granite
Twin Lakes
Leadville
Malta
Arkansas Junc.
Wurtman
Tennessee Pass
Minturn
Redcliff
Gilman
Eagle
Avon
Edwards
Wolcott
Eiland
Gypsum
Eagle
Dillon
Frisco
Montezuma
Keystone
Tiger
Breckenridge
Alma
Fair Play
Garo
Buffalo Spgs.
Hartsel
Jefferson
Como
Cassells
Grant
Chase
Shawnee
Grousemont
Bailey
Cliff
Crossing
Estabrook
Insmont
Buffalo Creek
Pine
Eastonville
Longview
Critchell
Conifer
Brookvale
Evergreen
Starbuck
Mt. Morrison
Golden
Beaver Brook
Forest
Jeffers
Tarryall
Hayman
Westcreek
Woodlee Park
Deckers
Waldorf
Empire
Idaho Spgs.
Floyd Hill
Georgetown
Silver Plume
Lawson
Dumont
Bakerville
Berthoud Pass
Ridge
Porter Creek
Alice
Lombard
Bald Mountain
Blackhawk
Central City
James Peak
Tolland
Apex
Gilpin
Arrow
Ballinsville
Plainview
Broomfield
Caribou
Cardinal
Eldora
Pinecliffe
Crescent
Boulder Canyon
Lafayette
Louisville
Superior
Sunset
Ward
Goldhill
Salina
Jamestown
Altona
Peaceful Valley
Grandview
Longmont
Silwot
Lyons
Big Elk
Allenspark
Meeker Park
Longs Peak
Association Camp
Grandlake
Estes Park
Chic Hygiene
NATIONAL PARK
BOULDER
GILPIN
CLEAR CREEK
JEFFERSON
SUMMIT
EAGLE
PITKIN
LAKE
PARK
COLORADO

Evans
Kersey
Kuner
Hardin
Goodrich
Weldona
Snyder
Hillrose
Burdett
Johnstown
Milliken
La Salle
Peckham
Gilcrest
Highland Lake
Mead
Platteville
Gowanda
Vollmar
Firestone
Frederick
Dacono
St Vrains
Erie
Ft Lupton
Hudson
Keenesburgh
New Wattenberg
BRIGHTON
Bashor
Masters
Orchard
Valley
Brush
Chapelton
Omar
Crest
Wiggins
Raggen
Wachtel
Bijouview
Pinneo
Platner
Otis
Hyde
Yuma
Schra
QUINCY
AKRON
Gary
Boyd
Adena
Rago
Prairie
Brunker
Henry
Steffens
Heartstrong
Comanche
Woodrow
Elba
Abbott
Oleson
Eskdale
Dillingham
De Nova
Meekton
Harrisbury
Hughes
Swinford
Leader
Simpson
Plum Bush
Lindon
Anton
Arickaree
Spence
Cope
Joes
Fremont
Thurman
Flat Top
Glen
Shaw
Carey
Elphis
Wellons
Bovina
Arriba
Flagler
Vona
Seibert
Genoa
Saugus
Limon
Riverbend
Agate
Buick
Bland
Norton
Hargisville
Deertrail
Wolfcreek
Parker
Schley
Sedalia
Louviers
Strontia Spgs
South Platte
Hill Top
Franktown
CASTLE ROCK
Elizabeth
KIOWA
Larkspur
Cherry
Greenland
Palmer Lake
Monument
Eastonville
Fondis
Elbert
Ramah
Simla
Matheson
Resolis
HUGO
Owen
Laco
Bennett
Strasburg
Byers
Peoria
Watkins
Aurora
DENVER
Littleton
Englewood
Cherrelyn
Lorraine
Mt Logan
Barr Lake
Bastlake
Henderson
Derby
Westminster
Welby
Irondale
Todd Creek
Irving
Westcreek
Salem
Bijou Creek
Middle Bijou
South Fork
Arikaree River
Beaver Creek
Sand Creek
Hell Gate
Republican
Big Sandy
Rush Creek
Willow Creek
Spring Creek
Owl Creek
Prairie Dog Creek
Cherry Creek
Coal Creek
Plum Creek
Kiowa Creek
Running Creek
Bijou Creek
Middle Bijou
Deer Trail
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Buckley
Aurora
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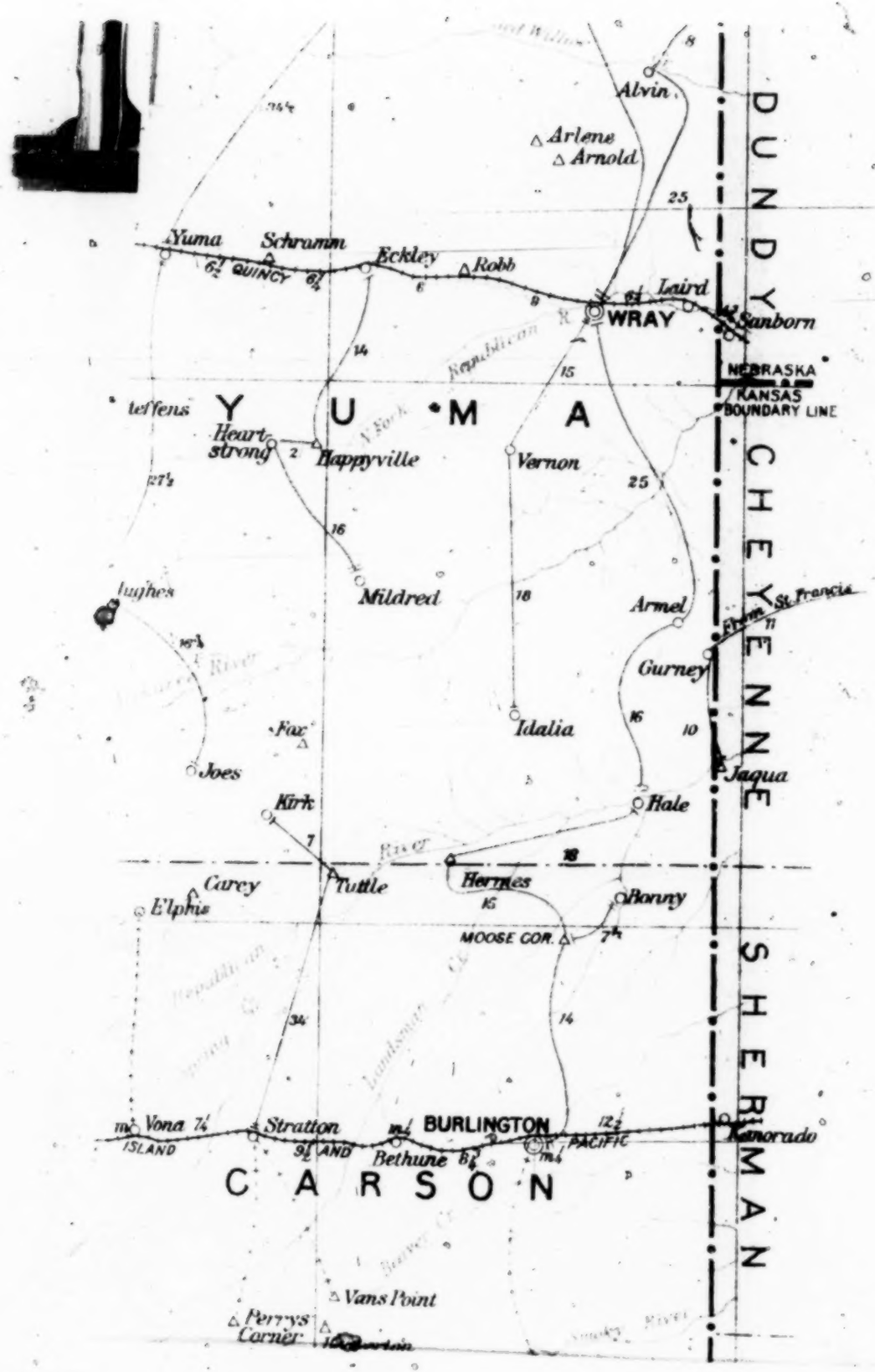
Aurora
Watkins
Bennett
Strasburg
Byers
Peoria
Deertrail
Agate
Buick
Bland
Hargisville



EXPLANATION

Post Office	Beginning of Route
Post Office, county seat	End of Route
Post Office, discontinued	Special Supply
No Post Office	Rural Delivery
Once a week	Mail Messenger
Twice a week	Railroad
Three times a week	Railroad Station
Six times a week	Electric Railroad

Stations of post offices are shown in parentheses.

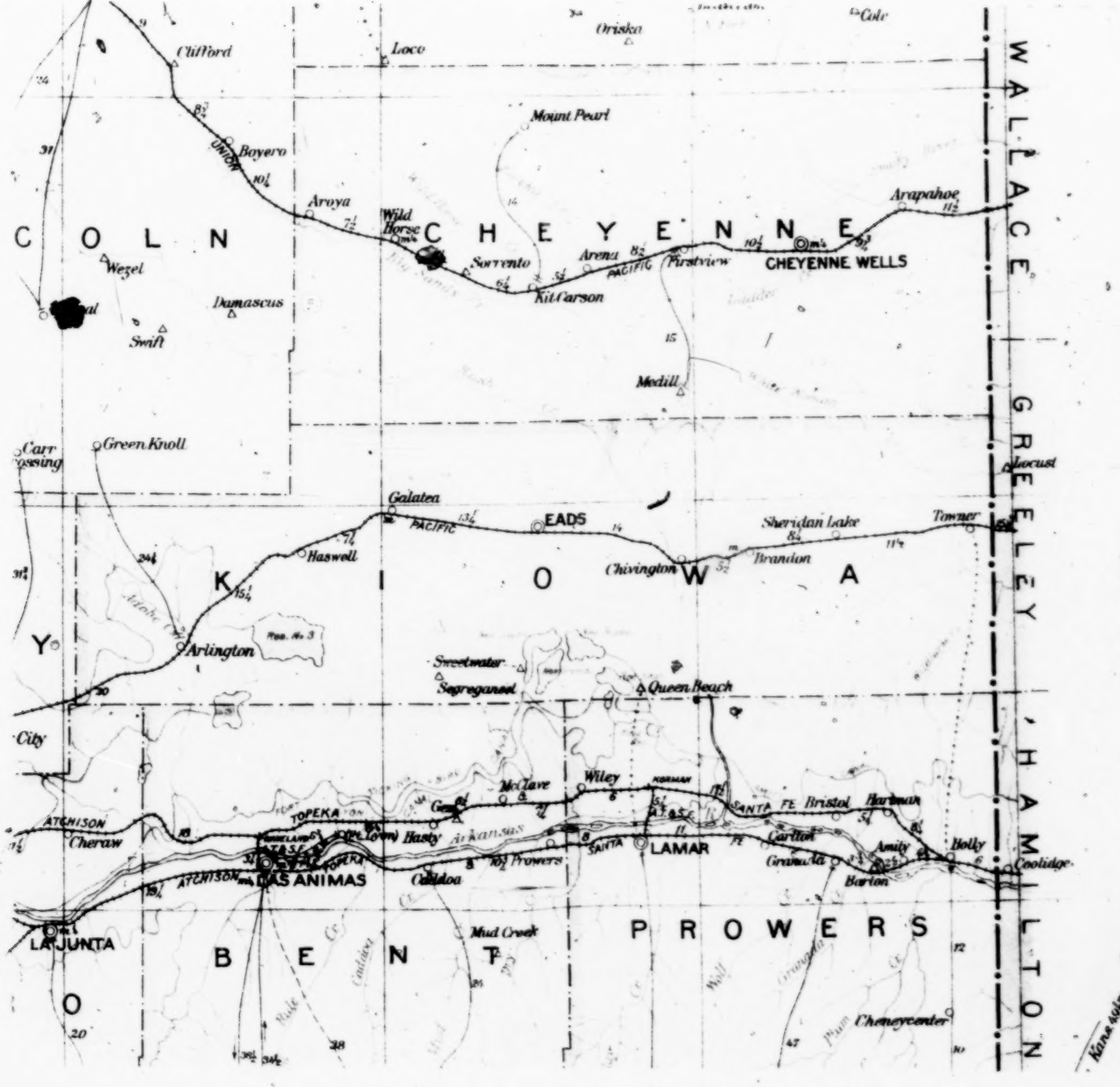
LIST OF COUNTIES

GRAND JUNCTION
Palisades
Pine Bluff
Glade Park
Whitewater
DENVER & RIO GRANDE
Gateway
Escalante Forks
Dominguez
Roubideau
DELTA
Cory
Austin
Read
Cedaredge
Eckert
Lazear
Hotchkiss
Paonia
Somerset
Crawford
Alda
Maher
Olathe
Cedar Creek
MONTROSE
Cimarron
Cebolla
Sapinero
Colona
Ridgway
Dayton
Sinbad
Uranium
Paradox
Bedrock
Nucla
Naturita
Ute
Redvale
Coventry
Norwood
Horsefly
Sans
Noel
Leonard
Placerville
Sawpit
Wetterhorn Peak
Henson
Capitol City
Engineer Mtn.
White Cross
Snaffels
TELLURIDE
Vanadium
Ironton
Animas Forks
Red Mtn.
Childs Park
Cedar
Egnar
MONTICELLO
DENVER & RIO GRANDE
RIO GRANDE
LAKE JUNC.
DEN.
VANCE
BARLOW MAIL BOX
39°
30°
38°
54
20
35
36
37
D E L T A
M O N T R O S E
O U R A Y
S A N M I G U E L
G U
A N
J U

Marble
Castle Peak
Ashcroft
Gothic
Crested Butte
Paonia
Somerset
Dorchester
Twin Lakes
Granite
Winfield
Garo
Buffalo Sprs.
Hartsel
Tarryall
Hayman
Lake George
Florissant
Howbert
Woodle
Park
Divide
Kraun
BUENA VISTA
Newett
Florestal
Glacier
Baldwin
Jacks Cabin
Tincup
CHAFFEE
Nathrop
Saint Elmo
Romley
Centerville
Gulfey
Highpark
CRIPPLE CREEK
Victor
Anaconda
Elkton
GUNNISON
Almond
Pitkin
Whitehorn
Turret
Ohio
Whitepine
Garfield
Poncha Spgs.
Salida
Parlin
Waunita Hot Sprs.
Doyleville
Sargents
Marshall Pass
Parkdale
CANON CITY
Calcite
Howard
Coaldale
Texas Creek
Cotopaxi
Williamsburg
Chandler
Rockvale
Pyrol
Alder
Bonanza
Villagrove
Hillside
Welmor
Greenwo
Use
Mineral Hot Sprs.
Watonga
Mirage
Westcliffe
SILVER CLIFF
Keating
Rosita
Forestdale
Vulcan
Powderhorn
Cochetopa
Dayton
Sapinero
Lodge
Iola
Cebolla
Lake Jct.
Cathedral
Wetterhorn Peak
LAKE CITY
Henson
Capitol City
Engineer Mtn.
White Cross
SAGUACHE
San Isabel
Moffat
Crestone
Focus
CUSTER
FREMONT
GUNNISON
SAGUACHE

TELLER
EL PASO
LINCOLN
CHEYENNE
FREMONT
PUEBLO
CROWLEY
OTERO
KIOWA
BENT

Palmer Lake
Monument
Woodland Park
Divide
Husted
Woodmen
Eastonville
Peyton
Falcon
Ramah
Calhan
Keyser
Graceland
Kanza
Kutch
Benko
Clifford
Loco
Boyero
Aroya
Wild Horse
Amy
Wezel
Karval
Damascus
Swift
George
Florissant
Crystola
Green Mountain Falls
Cascade
Manitou
Pikeview
Curtis
Surber
Burt
Yoder
Amo
Ellicott
Wayne
Albano
Rush
Kendrick
Majors
Squirrel Creek
Dragoo
Hanover
Mc Collin
Girard
Forder
Cowans
Green Knoll
Cart Crossing
Galatea
Haswell
Pikes Pk. 14109
Halfway
COLORADO SPRS.
West End (Sta.)
Kelker
(Drennan)
Highpark
Gillett
CRIPPLE CREEK
Independence
Anaconda
Elkton
Goldfield
Victor
Rosemont
Fountain
Buttes
Wilbur
Lytle
Bardeen
Wigwam
Pinon
BRADDON
Myrtle
Stone City
Penrose
Brewster
Florence
Concrete
Williamsburg
Chandler
Rockvale
Coal Creek
Portland
Pyrolite
Swallows
Tacony
Arlington
Sweetwater
Segregan
CANON CITY
Welmore
Greenwood
Ilse
Keating
Rosita
Forestdale
Siloam
Bronquist
Cousin Spgs.
Rock Creek
Goodpasture
Beulah
Burnt Mill
Sitton
Fairview
Rye
Graneros
Greenhorn
Mustang
Lime
Verde
Murrel
Abbey
Cedarwood
Wilson
Undercliffe
Grimaldi
Waremart
PUEBLO
North Avondale
Avondale
Boone
Nepesta
ORDWAY
Crowley
Sugar City
Olney Spgs.
Fowler
Manzanola
Vroman
Rocky Ford
Swink
Cheraw
Hasty
Caddoa
LAS ANIMAS
LA JUNTA
Rose
Sanford
Arkansas River
Black Squirrel Creek
Fountain Creek
Chico Creek
Rock Island
Big Sandy Creek
Caddoa River
Mustang
Timpas Creek
Apishapa River
Purgatoire River
Santa Fe
Missouri Pacific
Atchison Topeka
Colo. & So.
Rio Grande
Colo. - Kans.
Midland Terminal
Union Pacific
Pacific
Reed Cor.
Res. No. 3


Oriska
Cole
Clifford
Loco
Mount Pearl
Boyero
Aroya
Wild Horse
Arapahoe
Sorrento
Arena
Firstview
CHEYENNE WELLS
Kit Carson
Wezel
Damascus
Swift
Medill
Green Knoll
Galatea
EADS
Haswell
Sheridan Lake
Tanner
Brandon
Chivington
Locust
Arlington
Sweetwater
Segreganset
Queen Beach
City
McClave
Wiley
Bristol
Hartman
Cheraw
Hasty
Arkansas
Carlton
Amity
Holly
Granada
Barton
Coolidge
LAMAR
LAS ANIMAS
Caldoa
Prowers
LA JUNTA
Mud Creek
Cheneycenter
Kansas
COLN
KIOWA
BENT
PROWERS
WALLACE
GREELEY
HAMILTON

730-731

IN

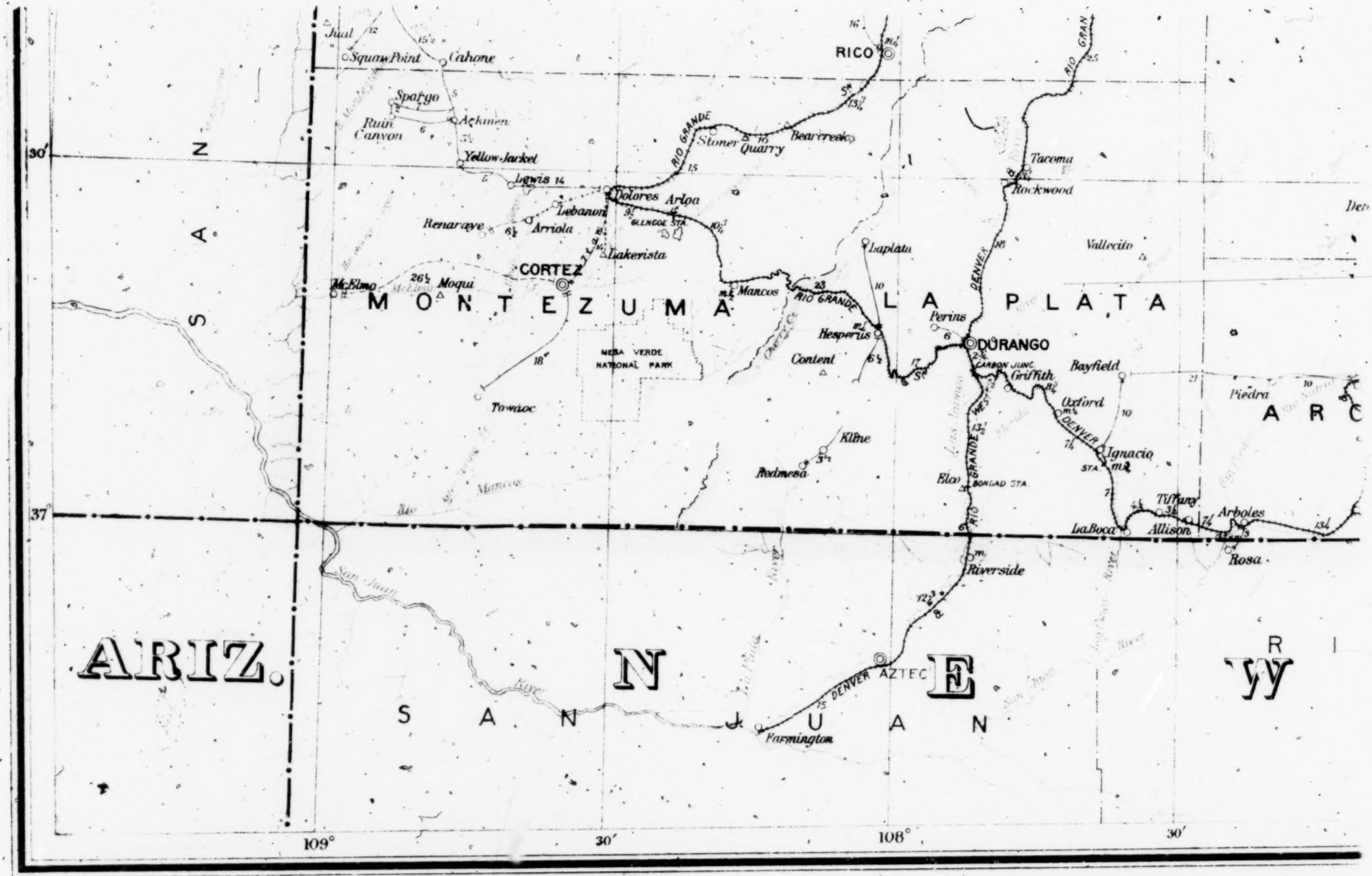
COLORADO

Showing the relative position of each County in the State.

Adams	N. E.
Alamosa	S.
Arapahoe	N. E.
Archuleta	S. W.
Baca	S. E.
Bent	S. E.
Boulder	N.
Chaffee	C.
Cheyenne	E.
Clear Creek	C.
Conejos	S.
Costilla	S.
Crowley	S. E.
Custer	S.
Delta	W.
Denver	C.
Dolores	S. W.
Douglas	C.
Eagle	C.
Elbert	E.
El Paso	C.
Fremont	C.
Garfield	W.
Gilpin	N.
Grand	N.
Gunnison	C.
Hinsdale	S. W.
Huerfano	S.
Jackson	N.
Jefferson	C.
Kiowa	E.
Kit Carson	E.
Lake	C.
La Plata	S. W.
Larimer	N.
Las Animas	S. E.
Lincoln	E.
Logan	N. E.
Mesa	W.
Mineral	S.
Moffat	N. W.
Montezuma	S. W.
Montrose	W.
Morgan	N. E.
Otero	S. E.
Ouray	S. W.
Park	C.
Phillips	N. E.
Pitkin	C.
Prowers	S. E.
Pueblo	S.
Rio Blanco	N. W.
Rio Grande	S.
Routt	N. W.
Saguache	S.
San Juan	S. W.
San Miguel	S. W.
Sedgwick	N. E.
Summit	C.
Teller	C.
Washington	N. E.
Weld	N. E.
Yuma	N. E.

39°

30′


Jual
Squaw Point
Cahone
Spargo
Ruin Canyon
Ackmen
Yellow Jacket
Lewis
Dolores
Arlpa
Lebanon
Renaraye
Arriola
Lakerista
CORTEZ
McElmo
Moqui
MONTEZUMA
Mancos
RIO GRANDE
Stoner
Quarry
Bearcreek
RICO
RIO GRAN
Tacoma
Rockwood
Laplata
Vallecito
LA PLATA
DENVER
Perins
Hesperus
Content
DURANGO
CARBON JUNC.
Griffith
Bayfield
Oxford
Piedra
Ignacio
Tiffany
Arboles
LaBoca
Allison
Rosa
Riverside
Kline
Redmesa
Ela
BONDAD STA
MESA VERDE NATIONAL PARK
Towaoc
DENVER AZTEC
Farmington
SAN JUAN
ARIZ.
N. MEX.
37°
30'
109°
108°

JUAN

MINERAL

RIO GRANDE

ALAMOSA

HUE

TA

ARCHULETA

CONEJOS

COSTILLA

RIO ARRIBA

MEXICO

Arastra

Hermit

Wagon Wheel Gap

South Fork

DEL NORTE

DENVER

Center

Lockett

Garnett

Hooper

Mosca

SAN LUIS CENT.

Home Lake

Monte Vista

SUGAR JUNC.

Herard

Gardner

Milachite

Redwing

Sharpsdale

Yellowstone

Blanca Peak

Russell

Veta Pass

Blanca

Ft Garland

RIO GRANDE

WESTERN

Debs

Summitville

Jasper

Stunner

Platoro

Capulin

Lasauses

Sanford

Manassa

Romeo

Los Cerritos

Espinoza

Antonito

Lobatos

Paisaje

Mogote

Osier

Orde

Cumbres

Chromo

Edith

Pagosa Junction

Arboles

Allison

Tiffany

Rosa

Piedra

Dyke

PAGOSA SPRINGS

Kearns

Squaretop

Ignacio

Navajo

AND

Dulce

Lumberton

THE NEW MEXICO LUMBER CO.

Chama

TIERRA AMARILLA

El Vado

Tres Piedras

Questa

Cerro

Virsybia

Sunshine Valley

Mesita

Jaroso

Garcia

Costilla

San Acacio

SAN LUIS

Chama

San Pablo

Lavalley

SAN LUIS

30′

107°

30′

106°

30′

HUERFANO

LAS ANIMAS

LA

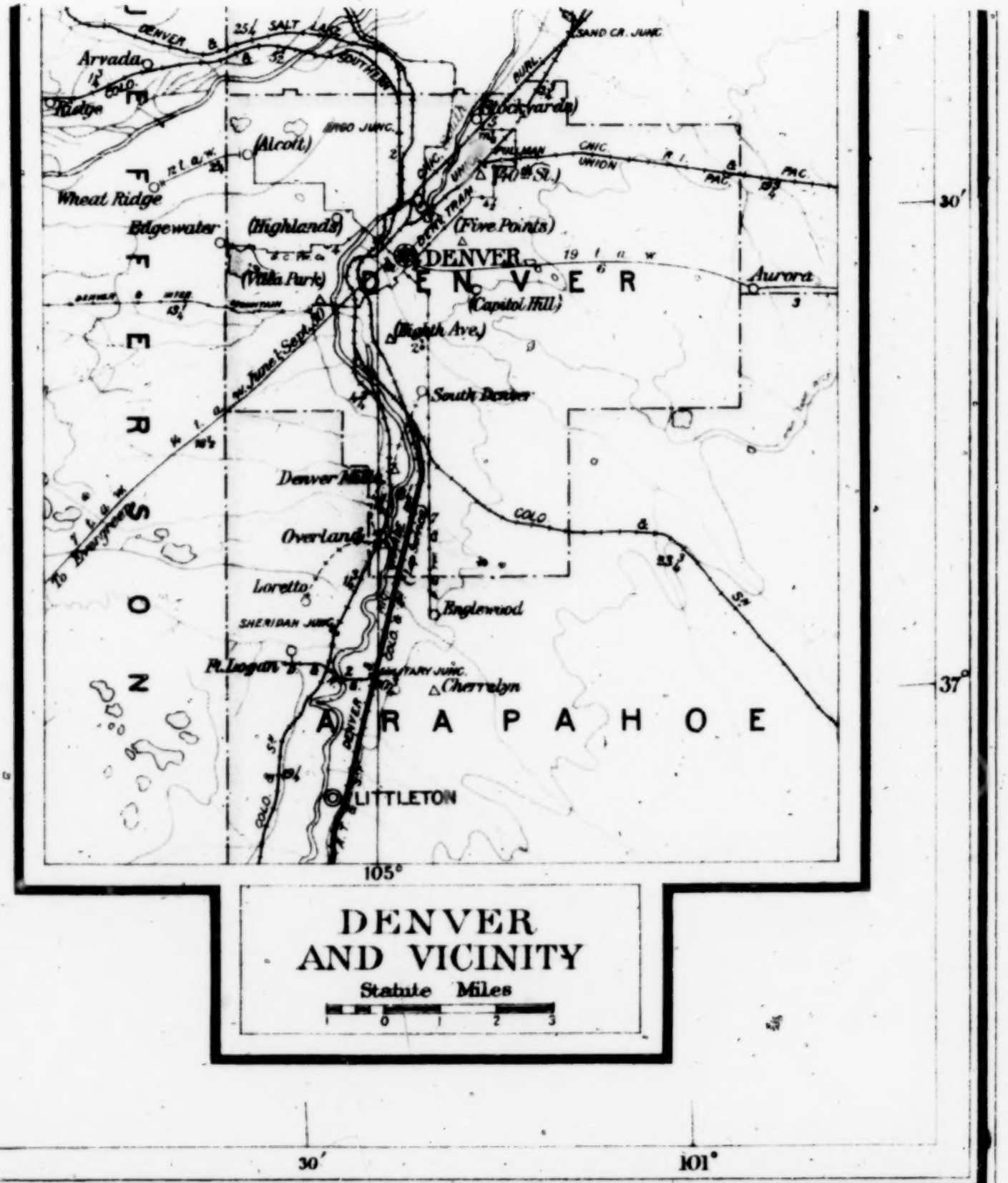
LUIS

COLFAX

CONEJOS

Gardner
Malachite
Redwing
Strong
Delcarbon
Rouse
Camp Shumway
Maitland
Pictou
Toltec
WALSENBURG
Walsen
Solar
Farr
Ravenwood
North Veta
Ideal
Pryor
Lesten
Rouse
Rapson
Cedarhurst
Rugby
Brodhead
Higgins
Aguilar
Delagua
Gulnare
Hastings
Ludlow
Tabasco
Berwind
Tollerburg
Majestic
Valorso
Forbes
Bowen
Boncarbo
TRINIDAD
Primero
Cokedale
Segundo
Valdez
Madrid
Starkville
Engleburg
Grayscreek
Barela
Stonewall
Vigil
Weston
Torres
Tercio
Morley
Wootton
Sugarite
Yankee
CARISBROOKE
RATON
DILLON
CLIFTON HOUSE
Vermejo Park
Dawson
Rattlesnake Buttes
Clanda
Patches
Cucharas
Spanish Peaks
Pauley
Vega Ranch
Yetta
Model
Bart
Hoehne
Alfalfa
Mesaview
Yachita
Tobe
Alcreek
Laub
Trinchera
Watervale
Folsom
N. Des Moines
Mindeman
Ayer
Bloom
Delhi
Thatcher
Wormington
Stage Cun on
Higbee
Opal
Vinaview
Harbourdale
Kazan
Omine
Irwin Cannon
Kant
Yeiser
Hoopup
Officer
Edenview
Patt
Buster
Flues
Villegreen
Plum Valley
Kim
Andria
Utleyville
Druce
Dalerose
Troy
Esteden
Carrizo
Lone Oak
Branson
Bintery Gap
Ojo
Oakview
Russell
Veta Pass
LaVeta
Cucharas Camps
Dean
Hicks
Link
Stamford
Lavalley
Pablo
Cucharas
Denver
Colo. & Denver
Huerfano River
Cuchara
Spanish
Ute
Van Bremer
Luning Arroyo
Alamosa
Upper Canadian
Canadian
Rio Vermejo
Clayton
Moses
Mexhoma
Longitude West 105° from Greenwich
30'
104°
30'
103°

Higbee
Opal
Ninaview
Rule
Harbourdale
Kazan
Deora
Verdun
Northway
Plains
Fisher
Stanton
Levan
Omine
Maxey
Two Buttes
Irwin Canyon
Kant
Yeaser
Flues
Craft
Hoopup
Blaine
Monon
Officer
Buster
Path
SPRINGFIELD
Vilas
Kenants
Joycoy
Edenview
Westola
MASSBACA
Clyde
Stonington
Villegreen
Plum Valley
Kam
Andrix
Villeville
Setonsburg
Sand Arroyo
Ohlarado
Rodley
Tobe
Dalerose
Troy
Druce
Estelene
Edler
Richards
Kirkwell
Campo
Lamport
Baker
Carrizo
Nowlinville
Pride
Lone Oak
Regnier
Kenton
NON
OKLA
TEXAS
Clayton
Meehoma
CIMARRON
BOISE CITY
Wheeless
Moses
Penn
30'
103°
30'
102°
30'


DENVER
Arvada
Wheat Ridge
Edgewater
(Highlands)
(Alcott)
(Five Points)
(Capitol Hill)
(Park Hill)
(Valla Park)
Aurora
South Denver
Denver Mills
Overland
Loretto
Englewood
Cherrelyn
LITTLETON
ARAPAHOE
JEFFERSON
105°
30'
37°
101°
DENVER
AND VICINITY
Statute Miles
0 1 2 3

Colorado

Q. Was the Darling line recognized as the boundary line of Colorado between Colorado and New Mexico during the time that they were both territories and after the Darling survey was approved and accepted by the general land office up to the time that each of these two territories were admitted into the Union as states?

A. I am not familiar with the New Mexico boundary calls, or the boundaries under which it was admitted as a state.

Q. To make it a little clearer my question is this: Assuming that New Mexico was organized as a territory in 1850 and that Colorado was organized as a territory in 1861, then at the time the Darling survey was executed and the Darling established in 1868, both New Mexico and Colorado were territories, were they not?

A. Yes sir.

Q. Under the jurisdiction of the United States?

A. Yes sir.

Q. Then while both New Mexico and Colorado were respectively under the jurisdiction of the United States, the government of the United States, thru its land office, recognized the Darling line as the boundary line?

A. Yes sir.

Q. And continued to?

A. Yes sir.

Q. And then at the time that Colorado was admitted as a state into the Union of states August 1, 1876, the Darling line was still [fol. 801] recognized as the boundary line between Colorado and New Mexico territory was it not?

A. Yes sir.

Q. Then if New Mexico was admitted as a state into the Union of states on January 6, 1912, the Darling line was recognized and accepted at that time by the general governmental authorities and thru its land office as the boundary line between the two states, was it not?

A. From the point of view of the general land office, I would say it was, yes sir.

Q. You have stated that a resolution was introduced in Congress in effect confirming the Carpenter survey and that said resolution was vetoed by President Roosevelt, then the effect of that action, was it not, that the Congress of the United States, failed, refused and declined to recognize the Carpenter survey for any purpose whatsoever?

Mr. Clancy: I object to that question as calling for a conclusion of law and for no statement of fact. We have the resolution and veto message already in the record.

Examiner Luther: Answer the question.

Mr. Johnson: It is my understanding that Congress took no further action in the matter.

Mr. Ramsey: Then at that time there was no other boundary line existing between Colorado and New Mexico, than the Darling line, was there?

Mr. Johnson: As far as the general land office was concerned, the Darling line remained the subsisting boundary between Colorado and New Mexico.

Q. And is considered such today by the general land office, is it not?

A. That is my opinion.

Q. Have you a manual of the rules, Mr. Johnson?

A. Yes sir, I can produce them.

[fol. 802] (Thereupon Mr. Johnson procured the manual.)

Q. That's all. Anything more Mr. Keyes?

Mr. Keyes: That's all.

Mr. Ramsey: That's all.

Redirect examination by Frank W. Clancy, counsel for the State of New Mexico:

Q. There was an exception to the closing of the public land surveys on the Darling line in range four, west of the New Mexico Principal Meridian, where there were surveys made which closed on the Carpenter line. Were not those surveys which closed on the Carpenter line made before the action of Congress adopting the Carpenter line, vetoed by the president of the United States?

A. I rather think they were, yes sir.

Q. Were they not made to close on that line in pursuance of the specific instructions of the commissioner of the general land office?

A. Yes sir.

Q. Do you think, however, subsequently these surveys were made to close on the Darling line?

A. I am uncertain, but that is my recollection.

Q. These were New Mexico surveys?

A. Yes sir.

Q. If that was done it would be apparent from the records of the surveyor general in Santa Fe?

A. Yes.

Q. Is it not a fact that the Colorado closings in that township and range were upon neither the Carpenter or Darling line, but some imaginary line that was south of both lines?

A. It is my best recollection that is true, that the surveys closed on a theoretical line, so as to make surveys complete, or to make them consistent, with those east or west, in length, and other ways.

Mr. Ramsey: Are you done?

Mr. Clancy: That is all I will ask Mr. Johnson now; I think that I might have more questions to ask him in the morning. I have [fol. 803] some documentary evidence to put in but do not care to do so by piece-meal, so that I will leave that to be put in evidence at the time of our meeting in Sant. Fe, later on.

Mr. Ramsey: You have suggested that you will have some more evidence to put on in the morning?

Mr. Clancy: Possibly.

Mr. Keyes: We desire to introduce all of the records covering and including all United States patents issued and outstanding along the southern boundary line of Colorado, and as we shall desire to examine the records in order to prepare for the introduction of that evidence from the land office, on the floor below, which will take some little time, it is suggested that we adjourn until eleven o'clock tomorrow morning.

Examiner Luther: We will then take an adjournment until eleven o'clock tomorrow forenoon, Wednesday, July 19, 1922.

(4:10 p. m.)

Third Day, Wednesday, ~~19 July~~, A. D., 1922, proofs continued.

(11 a. m.)

Examiner Luther: Everybody concerned is present and we will proceed. Do you want to continue your inquiries Mr. Clancy?

Mr. Clancy: I have nothing just now. You may examine Mr Ramsey.

Recross-examination conducted by Mr. Wm. R. Ramsey, [fol. 804] Assistant Attorney General and also of Counsel for the Defendant, the State of Colorado.

Q. At the time you made your examination as heretofore stated of the Darling line, was it confined to certain portions of the line, or did it include the whole line?

A. It was confined to that portion of the line between astronomical monument number six and astronomical monument number eight.

Q. You testified yesterday that you found no corner on the Darling line between the two hundred and seventeenth and the two hundred and thirty-fifth mile corner.—Is it not a fact that Darling made long triangulations along this line and did not set any corners, except at great intervals.

A. That is true.

Q. You testified, in your examination of the Darling line, you found a number of original corners immediately west of astronomical monument number six; you testified did you not, or to that effect, that these corners that you found were in good alignment east and west, did you not?

A. Yes, they were in fair alignment with an east and west line, up to the one hundred and ninety-sixth mile corner.

Q. You testified also that you found a number of corners west of astronomical monument number six, up to the one hundred and ninety-sixth mile corner and that from there you found a decided deflection in the line, to the south, up to the two hundred and first mile corner; as I remember your testimony, that amounted to about eleven chains in latitude; and you testified that thereafter the whole line had a general bearing south of west to the Navajo river?

A. Yes sir.

[fol 8057] Q. Is it not a fact, then, that the jog found in the Darling line, is due to the deflections in the line between monuments number six and seven, rather than to misiocations in these astronomical monuments themselves?

A. The great part of the error in the line between astronomical monuments sixth and seventh is due to the fact that the line was deflected to the south from the one hundred and ninety-sixth mile corner.

Q. In other words, then, so far as you know, astronomical monuments number six and seven, and the other astronomical monuments along the line were properly established, and the error that you found, was due to error in connecting these astronomical monuments; is that correct?

A. I did not test the astronomical monuments of the Darling line for latitude, but it is true, that the examinations made by me on the ground, disclosed the fact, that the large error in the line is due to the fact that the line bears heavily to the south from the one hundred and ninety-sixth mile corner.

Q. So far as you have any knowledge, the astronomical stations you have referred to on the Darling line, are correct, are they not?

A. I have no means of knowing about their correctness in latitude.

Q. Well, at that time, had they ever been questioned as to their correctness?

A. Not that I know of, no sir.

Q. Even if these astronomical monuments had been properly connected the line would not have contained any special heavy bearings would it?

A. My examination developed the fact that astronomical monuments sixth and eighth, and the identified position of number seventh, were not greatly off a continuous line.

[fol 8058] Q. It then would have been a fairly correct continuous line, would it not?

A. As to bearings you mean?

Q. That is what I mean?

A. Yes sir.

Q. As a result of your several examinations in 1899, 1900 and 1901, did you recommend the establishment of a new, independent boundary line between Colorado and New Mexico, or did you make some other recommendations?

A. I suggested at that time the feasibility and desirability of restoring the Darling line, between astronomical stations six and eight, the only part of the line at that time in question.

Q. And it has since been done, has it not?

A. Yes, along a portion of this part of the line. As I stated yesterday restoration was made of the Darling line, along about thirty miles of the line, in the general vicinity of Edith.

Q. Are you able to state what methods were used by Darling, and what instruments were used by Darling, in executing the survey made by him, and in establishing the thirty-seventh parallel of north latitude, so far as the same constitutes the boundary line between

the state of Colorado and the state of New Mexico, and so far as it constituted the boundary line between the territories of Colorado and New Mexico?

A. I am unable to state, but that is all a matter of record.

Q. Is it not a fact that after the Darling line had been established as the northern boundary line of the territory of New Mexico and was duly adopted and ratified as the southern boundary of Colorado, that the same was accepted by the federal government in all particulars as the legal boundary between these two jurisdictions?

[fol. 807] A. I can only say that the survey was accepted by the commissioner of the general land office of the United States as the survey of the northern boundary of the territory of New Mexico.

Q. You have stated that you made your examinations of certain portions of the Darling line in 1899, 1900, and 1901. Is it not a fact that for a period of about thirty-one years, the position of the Darling line on the earth's surface, remained undisputed, and the correctness of its technical execution unquestioned?

A. As far as I know, no protests were made—not within my knowledge.

Q. Has not the general land office held in matters coming before it involving questions of jurisdiction, that aside from other considerations, the fact of the failure of confirmation of the Carpenter line, made in 1902 and 1903, eliminates it from consideration as the boundary line between these jurisdictions?

Mr. Clancy: I object to that question because it calls for a conclusion of law and for no statement of fact.

Mr. Johnson: Please read that question.

Examiner Luther: I will repeat it.

(Last above question of Mr. Ramsey repeated.)

Mr. Johnson: So far as I know that is true.

Mr. Ramsey: Are you able to state whether Darling executed his survey in accordance with the instructions given to him by the commissioner of the general land office and also in accordance with his contract with the United States government?

Mr. Johnson: I am not. I can only say that the survey was accepted.

Q. By whom?

A. By the commissioner of the general land office.

Mr. Clancy: We have that already in the record.

[fol. 808] Mr. Ramsey: Were not the instructions given to Carpenter as to making his resurvey rather unusual and contrary to the general rule governing resurveys?

Mr. Johnson: The instructions for surveys and resurveys issued by the general land office are based on the special acts authorizing the work. If congress directs an independent resurvey be made, special instructions must necessarily provide an independent resurvey.

Mr. Ramsey: However, if congress simply provides that there shall be a resurvey, remarking and reestablishment, what then, would you say?

Mr. Claney: I object to that as not being relevant to anything that is now in the record, or that can be in issue in this cause.

Mr. Johnson: The type of surveys in these instances or circumstances depend upon the interpretation put upon the acts by the general land office.

Mr. Ramsey: You mean the acts of congress authorizing the work?

Mr. Johnson: Yes sir.

Q. I am using the words resurvey, remark, and reestablish, because they are the words that are used in the acts of congress, and also the words that are used in the contract made by Mr. Carpenter with the United States?

A. I will ask the examiner to keep this off the record, please, while I make an explanation, and then I can answer.

(Here Mr. Johnson made some explanatory remarks that he specifically requested not placed in the record and they were not, therefore, taken down by the examiner.)

Mr. Claney: I want just what he said put in the record.

Mr. Ramsey: He has just stated to keep it out of the record.

Mr. Claney: But I am protesting because it is not in the record. [fol 569] Mr. Johnson: Will you please read the last question Mr. Examiner?

Examiner Luther: The last question by Mr. Ramsey was, "I am using the words resurvey, remark and reestablish, because they are the words that are used in the acts of congress, and also the words that are used in the contract made by Mr. Carpenter with the United States?"

Mr. Johnson: I am not sufficiently acquainted with the terms of the contract which Mr. Carpenter entered into with the general land office to answer that question.

Mr. Ramsey: You have stated that the Darling line was accepted by the commissioner of the general land office? Is that the usual and customary authority for accepting surveys made by the United States?

Mr. Johnson: That has been the custom in the survey of boundaries between the territories of the United States.

Q. On yesterday you stated the Carpenter line to be a well executed piece of work, and at that time, if I am not mistaken, you were United States Examiner of Surveys, were you not?

A. Yes sir.

Q. Although you were of the opinion that the Carpenter survey was a good piece of work, did you recommend—did you as examiner of surveys recommend its acceptance by the United States government as the boundary line?

Mr. Clancy: I think you asked Mr. Johnson that yesterday.

Mr. Ramsey: Not just in that way, I do not think Mr. Clancy.

Mr. Clancy: It would be out of Mr. Johnson's province to recommend anything as a boundary line.

Mr. Ramsey: Answer my question.

Mr. Johnson: As I recall it, I made no recommendations as to [fol. 810] whether the survey should be accepted or not.

Mr. Ramsey: As examiner of surveys what did you usually do in reference to the acceptance or rejection of any survey that was made under a contract with the government?

Mr. Johnson: It was the privilege of the examiner of surveys and I may say it was generally expected of him that he make recommendations based on his examination in the field as to the acceptability of the survey.

Q. Did you make an examination of the Carpenter line in the vicinity of astronomical station number five?

A. I did.

Q. How did you find the lines to the east and west of that monument, with reference to bearing?

A. I will look.

Mr. Clancy: You might indicate how far to the east and how far to the west, that is a pretty broad question.

Mr. Johnson: I will look that up and make a diagram of it during the noon hour.

Mr. Ramsey: I think we had better recess until 2 p. m.

Examiner Luther: We will recess until 2 p. m.

Afternoon Session, Third Day, July 19, 1922.

Examiner Luther: As all are present we will resume the taking of evidence. Mr. Johnson will resume the stand.

Mr. Ramsey: I wish Mr. Examiner you would repeat again on the record the last question I asked which Mr. Johnson was to look up and answer during the noon hour.

Mr. Examiner: The question you asked before luncheon was "How did you find the lines to the east and west of that monument, with reference to bearing?"

Mr. Ramsey: Yes. How did you find the lines?

Mr. Johnson: My examination determined the fact that those [fol. 811] various portions of the line tested between the fourth and fifth astronomical stations of the Carpenter line, had a bearing to the north of east, while those portions of the line tested between astronomical monuments numbers five and six had a general bearing to the south of east. It will be understood that I did not run over the entire line of the Carpenter survey. Tests were made only at regular intervals. The greatest difference in bearing according to Mr. Carpenter's and my findings is between the two hundred and fourth mile and astronomical monument number six. I find the average bearing between astronomical monuments five and six to be south eighty-nine degrees forty-nine minutes east. West from

astronomical monument five the bearing is about south, eighty-nine degrees, forty-eight minutes west. These bearings were tested several times. The tangent run by Carpenter between astronomical monuments five and six is north of the parallel or established line, and the cuttings west of astronomical station five are considerably south of the line. It would seem that astronomical station five is not on the parallel. By that I mean that astronomical station five would be north of a true line connecting astronomical monuments four and six.

Q. Would this not indicate then that astronomical monument five on the Carpenter line was some distance north of the monuments to the east and west thereof? A. It would.

Q. In other words at astronomical station five, there is an apex of what you might call, a broad triangle with astronomical monuments four and six, at the other two points of the triangle?

A. Yes sir.

Q. It would seem then that the Carpenter line at astronomical station five is some distance north of a line connecting astronomical stations four and six?

A. Yes sir.

[fol 812] Q. Are you able to state from your examination of the records how this departure from the true east and west line, compares with Darling's departure the true east and west line?

A. As I have stated I did not examine Carpenter's full line between astronomical stations four and six, and therefore it would not be possible to draw a comparison.

Q. Could you approximate it?

A. We could take an average of the bearings as found in the examination and compute the approximate distance astronomical station number five would be north of a true line connecting astronomical stations four and six.

Q. You have made no such examination and would be unable to approximate the distance?

A. No sir.

Q. You have made no such examination as would enable you to approximate it?

A. No sir.

Q. Would it take a great length of time to do that approximately: to determine it?

A. Not a great while.

Q. We would be glad to have that information, if possible?

A. I can do it.

Q. Will you please do so then?

A. (After witness had made computations called for) I have now made the computation, based on the average bearing of the lines examined and find that astronomical monument number five of the Carpenter survey is approximately fourteen chains north of a true line between astronomical stations numbered four and six.

Q. Is there any further statement in connection with this cause that you could make that would shed any light to us upon the subject?

A. What have you in mind Mr. Ramsey?

[fol. 813] Q. In reference to other monuments that you have mentioned, or not rather as to details; but I rather think your answers have covered about all I desire at this time?

A. I think so.

Mr. Claney: I suggest that he might make as a part of his answers to you the distance between four and five and from four to six.

Mr. Ramsey: All right.

Mr. Claney: State what is the distance from monument four to five and from monument five to six and the approximate total distance between four and six?

Mr. Ramsey: I think he might so state.

Mr. Johnson: The distance from astronomical station or monument number four to five of the Carpenter survey is practically forty-nine miles and from five to six is fifty-eight miles; therefore the whole distance between astronomical monument number four to astronomical monument number six is one hundred and seven miles.

Mr. Ramsey: Did the location of the corner of the Ute Indian Reservation, of which you have made mention, have anything to do, or have any connection with the Darling line, at all?

Mr. Johnson: It had nothing to do with the running of the Darling line.

Q. If I understood you correctly on yesterday you then stated that the survey made by Mr. Ober was rejected by you?

A. Yes sir.

Q. Was there any particular reason why you rejected it?

Mr. Claney: He told you that yesterday.

Mr. Johnson: Yes sir, on yesterday.

Mr. Ramsey: Why?

Mr. Johnson: Because it was faulty in execution and the public land lines were not properly closed thereon.

[fol. 814] Q. You referred on yesterday to one instance in which a township survey had been closed on the Carpenter line. As I recall your answer, I think that was in township thirty-two, range four west N. M. P. M. Is that correct?

A. Yes sir, township thirty-two north, range four west of the N. M. P. M.

Q. Is it not a fact that later that line which you have stated was closed on the Carpenter survey, or Carpenter line, was abandoned, and the line changed back within the Darling survey, or changed to the Darling line?

Mr. Claney: He testified about that yesterday, also. There is no need repeating.

Mr. Ramsey: He testified that the line was changed back, but I am putting this additional question, "Was not that Carpenter survey or that abandoned?"

Mr. Johnson: I do not recall that I testified the survey was changed; I think it was my recollection that it was changed. The records, however, of the survey are in the offices at Santa Fe, and it is my recollection that the Darling line was made the closing line later, in place of the Carpenter line.

Q. Is it not a fact that any two surveys made by different surveyors rarely ever agree in all particulars?

A. Of the same area?

Q. Yes sir?

A. They rarely agree in detail in all particulars.

Q. Is it not a fact that the accuracy of a survey depends largely upon the methods used, the kind of instruments and the care and pains with which the survey is executed?

A. Yes, and I may add, the skill of the surveyor.

[fol. 815] Q. In your observation and experience in your official capacity for years as supervisor of surveys, is it not a frequent occurrence that boundaries of states, and other boundaries, made in an early day, by cruder methods, and less modern instruments, would in many instances be changed by more modern methods and more improved instruments; is that correct?

A. The surveying organization of which I have had charge has frequent occasion to close on state boundary lines, and it has found these boundary lines in places to be defective, according to modern standards.

Q. Can you give any instances, or have you in mind any such conditions?

A. It must be remembered that the reports of the members of the organization are made to me, and just now I doubt if I can recall offhand any that I may have come in contact with,—personal contact with. I do not recall.

Q. Is it not probable then that the boundaries of a great many of the older states, established in an early day, if surveys thereof were established at the present time, would be different from what they were when originally established?

A. Modern methods in the determination of azimuth and measurement are now far more accurate than those employed in an early day.

Q. That is the point I am trying to get at.

A. Yes sir.

Q. That then answers my questions on that. There is another thing I may later recur to; that is all just now.

Re-redirect examination by Frank W. Clancy, Counsel for the Plaintiff, the State of New Mexico:

Q. Recurring to your examination or examination of the Darling [fol. 816] lines in 1899 and 1901 I want to make sure I understand you on that. As I understood your testimony, from Darling's astronomical monument number six, running west to the one hundred and ninety-sixth mile corner, you found and identified the line according to his notes and the signs then in existence?

A. Yes sir with the exception of six corners——

Q. That you did not find?

A. —that I did not find; I did not find the six corners westerly from astronomical station number six which is east of the one hundred and eighty-second mile corner to the one hundred and ninety-sixth mile corner.

Q. But still you satisfactorily identified the line from that monument up to the one hundred and ninety-sixth mile corner?

A. Yes sir.

Q. But from the one hundred and ninety-sixth mile corner as I understand it, you found there was a deflection of the line to the south, and you did not find, however, any mile corners or any markings to indicate the line, until you arrived at the bank of the Navajo river where there was a stone buried in the ground?

A. Not entirely. I will say from the one hundred and ninety-sixth mile corner the line bears heavily to the south to the two hundred and first mile corner which was identified, as was also the two hundred and second, the two hundred and third, and two hundred and sixth. Westerly, nothing was found on the line with the exception of occasional old blazes on trees until the stone was reached on the west bank of the Navajo river.

Q. The effect of your testimony was, that presumably at that point, Darling ascertained that he was south of the parallel?

A. Yes sir.

[fol. 817] Q. He sought to correct his line going northeast where he had established monument seven, which was thirty-five chains approximately?

A. Yes sir.

Q. From that monument number seven Darling retraced his line to the east, but not all the way back to his monument number six?

A. Yes sir.

Q. How far did he reestablish his line from monument number seven back towards his monument number six?

A. To Ewell canon, a distance of two or three miles.

Q. And there he appears to have stopped and never did connect his monument number seven with his monument number six?

A. Yes sir.

Q. And that accounts for the difference between that part of his line east of Ewell canon and that part which is west of Ewell canon?

A. Yes sir.

Q. Now at what mile corner is the west bank of Ewell canon, as nearly as you can state?

A. As I recall it is near the two hundred and twelfth mile corner; Ewell canon is between the two hundred and eleventh and two hundred and twelfth mile corner.

Q. As to the Darling line?

A. Yes.

Q. And is there any direct connection between the two hundred and eleventh and two hundred and twelfth mile corners with the one hundred and ninety-sixth mile corner, or is that where the variation occurs?

A. The two hundred and eleventh and the two hundred and twelfth mile corners were never found on the ground, and in 1917 the general land office established a portion of the Darling line which ran west from the two hundred and sixth mile corner to Ewell canon and by running east from two hundred and seventeenth mile corner to Ewell canon, the terminus of the two lines being connected by an oblique line in the canon.

Mr. Ramsey: I would like to have a description of that canon put into the record by the witness.

[fol. 818] Mr. Clancy: Would it not have been possible to run a correcting line from Darling's corner, his monument number six to his monument number seven, as he established it after it was found it was south of the thirty-seventh parallel of latitude, even though Ewell canon intervened?

Mr. Johnson: That is what he should have done in the first place and it would be possible to establish again the true line from astronomical monument number six to astronomical monument number seven.

Mr. Clancy: Then if I understand you correctly Ewell canon is so deep and so rough that therein practical measurements would not be possible thru or across that canon, but by triangulation, the true line could be perfectly established?

Mr. Johnson: Yes sir, that is correct.

Q. But there never has been any establishment of such a line from Darling's monument number six to his monument number seven across Ewell canon?

A. Not by the government.

Q. Do you think of anything more: that is all I wish to ask.

Re-recross-examination conducted by Wm. R. Ramsey, Assistant Attorney General and also of Counsel for the Defendant, the State of Colorado:

Q. Then astronomical monuments sixth and seventh could be connected by a true line, and if that were done it would be consistent with Mr. Darling's whole line as established by him: is that correct?

A. It is certain from the field notes that such a line would not be east and west, but would have to bear north of west, from astro-[fol. 819] nomical station or monument number sixth.

Q. It would be approximately not far from an east and west line would it not?

A. From such data as we have available at this time it would appear that such a line would have a bearing of about eighty-nine degrees and forty minutes.

Mr. Clancy: Or within twenty minutes of a true east and west line?

Mr. Johnson: Yes sir.

Mr. Clancy: Can you state Mr. Johnson whether or not from the testimony or otherwise there is any substantial difference between the methods employed and instruments used, or which should have

been employed and used by Darling in the year 1868 and those which were used and employed by Mr. Carpenter in his survey?

Mr. Johnson: I can only say in answer to that question that the requirements of the general land office in the matter of the determination of boundary lines and the execution of all other surveys are now much stricter, perhaps in every respect, than they were at the time Darling executed his survey.

Mr. Clancy: Can you now state by reference to the field notes of the Darling survey and the field notes of the Carpenter survey, whether there was any substantial difference in the methods used and employed, or the instruments used and employed?

Mr. Johnson: Yes sir, I think I could by making an examination of the field notes of both surveys.

Q. You would not need to make a detailed examination, would you of the field notes of both surveys; would not an examination of [fol. 820] the preliminary entries thereof show whether or not there was any substantial difference between the instruments used and employed by the two surveyors on these two surveys of the Colorado-New Mexico boundary?

A. Without a detailed examination of the field notes and reports of the two surveyors, I cannot so state.

Q. We will not ask you at the present time to go into such detailed examination?

A. Yes sir.

Mr. Ramsey: In making astronomical observations to determine locations as to latitude, the instructions to Mr. Carpenter permitted a closing limit with three seconds of arc on the thirty-seventh parallel?

Mr. Johnson: Yes.

Q. Will you please explain what that means?

A. It simply means that in the execution of all the surveys, the government recognizes the fact that owing to personal equation or inequality of instruments and measuring equipment, that it is impossible to make exact determinations, and therefor a limit of error is allowed. Off the record please Mr. Examiner.

Q. What you have just said explains just what I want Mr. Johnson. It was not clear to me before. I want the examiner to take that down.

Mr. Examiner: He said it was "off the record."

Mr. Clancy: But I want it taken down. That's what I'm asking.

Mr. Examiner: Will you repeat it?

Mr. Clancy: Mr. Johnson you have just made a statement not for the record and which has not been taken down by the examiner, being an explan-tion of what can or cannot be done in determining and running a parallel of latitude. Will you please repeat that explanation again so that Mr. Luther, the examiner, may take it down in shorthand, as I think it might be of some value to both counsel and to the court.

[fol. 821] Mr. Johnson: The record of both the Darling survey and the Carpenter Survey, of the thirty-seventh parallel of north latitude, between the one hundred and third and the one hundred and ninth meridians, west longitude, shows that the tangent lines were run by both surveyors, between astronomical monuments and offsets made therefrom to the parallel of latitude.

Mr. Clancy: You also stated something about the theoretical possibility of absolute precision in establishing a parallel of latitude by the methods prescribed by our United States Coast and Geodetic Survey, and the British government, in its surveys in India, and as to the difference between the theoretical possibility, and what is the practicable possibility; as the examiner did not take that; I wish you would repeat that for him now, so that he can take it in shorthand. I am now asking you to try to do so; give us your views of the matter again.

Mr. Johnson: What I had in mind, Mr. Clancy, was that in the establishment of parallels of latitude, of the public land survey system, we carefully determine our initial points by astronomical observations, and then run a tangent line to the parallel therefrom, making the proper offsets to the parallel. In this way we secure a line every point in which is equidistant from the pole. This method is employed largely in the determination of latitudinal boundaries of Indian reservations and other large tracts, and on parallels of latitude on public land surveys—

Examiner Luther: Is that all?

Mr. Johnson: Yes.

Mr. Clancy: In determining such initial points, is not the attempt to establish the intial point upon the parallel of latitude?

Mr. Johnson: Yes sir.

[fol. 822] Q. So that you would not run, from that initial point—you would not run any tangent to the parallel?

A. From that initial point we would project the tangent, offsetting to the parallel.

Q. From the initial point you would run a tangent east or west?

A. Yes, from the initial point.

Q. The initial point being on the parallel, so that a line would be run east and west, and at intervals verified by running tangents to the parallel?

A. Yes sir, verified and established by making offsets to the parallel.

Q. To ascertain where the parallel is it would be necessary to make astronomical observations at other points along the parallel, besides the initial point, would it not?

A. It would; in lines of considerable length check by astronomical observation is desirable.

Q. Otherwise you would not know where the parallel was?

A. Yes sir. Our examination of these surveys shows that was done.

Q. Between astronomical stations?

A. No. I may add, Carpenter employed, so far as I can see from the record, the same method of survey that Darling employed.

Q. And that method would give results as to the correctness of the parallel as nearly as practicable?

A. Yes sir.

Q. And give the correct location as nearly as possible?

A. Yes sir; I may add, if properly applied.

Q. Nothing more, Mr. Johnson.

Mr. Ramsey: There was no question as to the correctness of the initial point of the Darling line, was there?

Mr. Johnson: I do not know.

Mr. Ramsey: Just one other question. Is it not a fact that in the [fol. 823] public land surveys that you allow a larger limit for closing than three seconds of arc?

Mr. Johnson: Yes sir.

Mr. Ramsey: How much difference do you make?

Mr. Johnson: The allowable limit of error in the execution of public land surveys is twenty-one minutes of arc.

Mr. Ramsey: That is all.

Examiner Luther: Is that all the testimony desired at this time to be adduced by either party?

Mr. Keyes: That is all of this witness.

Mr. Clancy: Yes.

Mr. Keyes: But I want the record to show that it was our purpose to put in evidence at this time of all entries and patents made on government lands in the vicinity of the thirty-seventh parallel of latitude, between the one hundred and third and the one hundred and ninth meridians, the surveys of which have been closed on the Darling line. We find, however that the records of all such entries and patents are not in Denver, but are lodged at the Durango, Del Norte and Pueblo land offices. Let the record show that at some later date we expect to put this evidence into the record of these proceedings. However, when we have secured the proper data, it is possible that we can later stipulate what should go into the record in this cause.

Mr. Clancy: I have no doubt but that we shall be able to agree on that; that there will be no trouble about that, without the necessity of producing witnesses from the general land office to identify any such records.

[fol. 824] Mr. Keyes: After the testimony is taken at Santa Fe by you Mr. Clancy, it is possible we shall at that time also put in further evidence, and later on put in further evidence at Denver.

Mr. Johnson: I would like opportunity, the same as Mr. Kidder to read over, correct and sign my testimony.

Mr. Clancy: I think you may be permitted to do that. I think the most liberal latitude should be allowed the witnesses in corrections and additions to their testimony, so that we shall get at all the facts.

Mr. Johnson: It is of a technical nature and the misquotation of a word might mean entirely different than was intended.

Mr. Clancy: I have no objections to your doing that.

Mr. Examiner: You are excused Mr. Johnson then. Is that all gentlemen?

Mr. Clancy: Yes sir.

Mr. Keyes: This concludes this branch of the hearings.

Examiner Luther: The taking of testimony at this time is concluded at 4:20 p. m., Wednesday, the nineteenth day of July, A. D., 1922, at the office of supervisor of surveys.

Mr. Keyes: If the changes amount to much they can be stipulated. There is nothing said about that in the order.

Examiner Luther: Before I send in the evidence I will first let the witnesses examine and correct the same, if there is no objection.

[fol. 825] STATE OF COLORADO,
City and County of Denver, ss:

EXAMINER'S CERTIFICATE

It is hereby certified that the above and foregoing transcript of shorthand notes contains all the proofs, evidence, testimony, and proceedings, presented, offered, or adduced, July 17, 18, and 19, 1922, at Denver, Colorado, both on the part of the complainant and the defendant.

Henry C. Luther, Examiner.

[fol. 826] IN THE SUPREME COURT OF THE UNITED STATES

[Title omitted]

EXAMINER'S CERTIFICATE

To the Honorable the Supreme Court of the United States:

The undersigned examiner, appointed and designated by orders of this court, entered in this cause, respectively, on the 30th day of January, 1922, and the 15th day of May, 1922, to take all proofs which may be offered by the parties to this cause, in Denver, Colorado, and to return the same, together with all proceedings in connection therewith and all exhibits submitted by the parties, to this court, respectfully reports to the court that, on Monday, July 17, 1922, he took the oath required by said orders; and on said Monday, July 17, 1922, on Tuesday, July 18, 1922, and Wednesday, July 19, 1922, in Denver, Colorado, counsel for the respective parties being present, he proceeded, pursuant to said orders, to take the testimony offered in the cause; and on the last named day, the final session was held in said city, the parties offering no more testimony in said city, at said time.

The said orders were executed by receiving the testimony of the several witnesses named in the testimony, who were sworn to testify [fols. 827-829] the truth, the whole truth, and nothing but the truth, before giving their testimony and evidence; and the testimony and evidence so given and adduced by them was taken down in shorthand by undersigned examiner, and such testimony and evidence being thereafter duly transcribed into typewriting is now herewith submitted together with all the exhibits offered in evidence by either of the parties to said cause. (there being during the time of the taking of the above testimony and proceedings, however, no separate documents or exhibits from either of the parties offered or tendered to me, as examiner, for marking and identification, but only certain offers and tenders were made during said time, and also certain notations in the record that later on certain other documentary evidence would be put in, all as shown by the testimony and proceedings at large, supra).

The testimony and proceedings taken in short hand during said time was duly transcribed and is contained in 95 pages, numbered from 39 to 133 both inclusive.

The complainant, the state of New Mexico, offered and tendered all of the above testimony and proceedings, save in due course, the cross-examinations of the witnesses by the state of Colorado, and its notation of taking further evidence later on that it intended to take now.

All the above testimony, evidence, proofs and proceedings have been filed with the clerk of this Honorable Court.

The undersigned examiner, Henry C. Luther, on honor and under original oath filed herein, hereby certifies to the correctness of said testimony, evidence, proofs and proceedings.

Respectfully submitted, Henry C. Luther.

Dated at Denver, Colorado, 21st September, 1922.

[fol. 830] IN THE UNITED STATES SUPREME COURT

[Title omitted]

Testimony taken at Santa Fe, New Mexico, September 11-12, 1922, before Ethel F. Stevenson, examiner designated by the parties hereto in pursuance of an order of the court, oath required by said order having been heretofore filed in the office of the clerk of the court.

Appearances: Frank W. Clancy, Esq., for the State of New Mexico; Victor E. Keyes, Attorney General; William R. Ramsey, Asst. Attorney General, for the State of Colorado.

By Mr. Clancy: I offer in evidence certified photographic copy of field notes of the examination of surveys of the Colorado-New Mexico boundary line between the 274 and 287 mile corners, executed by E. N. Darling, 1868, as examined by Frank M. Johnson, Special Agent, examination began November 2, 1899 and completed November 23, 1899, which the examiner will mark as complainant's exhibit No. 1.

[fol. 831] By Mr. Ramsey: The defendant objects to the exhibit offered upon the ground that same is incompetent, irrelevant and immaterial, and does not tend to throw any light upon the issues in this case.

By Mr. Clancy: I offer in evidence certified photographic copy, as described in the certificate "of the field notes of the survey of the Colorado-New Mexico boundary line by Frank M. Johnson, examiner of surveys in 1900 and 1901", but which is more correctly described in the body of the document as "the examination survey of the Colorado-New Mexico Bdry. line between Ast. Mons. No. 6 and 8", which the examiner will mark complainant's exhibit No. 2.

By Mr. Ramsey: The defendant makes the same object to complainant's exhibit No. 2 as that made to complainant's exhibit No. 1, and upon the same ground.

By Mr. Clancy: I now offer in evidence a copy of Chapter 37 of the laws of Colorado of 1901, which is entitled "An act to re-establish and fix the southern boundary line of the State of Colorado on the thirty-seventh parallel of north latitude, between astronomical monument No. 6, near Osier, Colorado, and astronomical monument No. 8, near Arboles, Colorado, as heretofore established by Ehud N. Darling, for the government of the United States, and to make the report and record of the survey and re-establishment of said line, when filed and recorded in the office of the Secretary of State, evidence in all courts of Colorado", which the examiner will mark complainant's exhibit No. 3, said law being approved April 11, 1901.

[fol. 832] By Mr. Ramsey: Same objection as to preceding exhibit.

By Mr Clancy: I now offer in evidence a copy, certified by the Secretary of State of Colorado, of the report of Charles A. Johnson, Commissioner appointed by the Governor of Colorado, under the act of the legislature of that state, a copy of which has just been offered in evidence as complainant's exhibit No. 3, which the examiner will mark complainant's exhibit No. 4.

By Mr. Keyes: Defendant objects to the introduction of complainant's exhibit No. 4, upon the ground that it is incompetent, immaterial and irrelevant to any issue in this case.

By Mr. Clancy: In the natural order of these documentary exhibits, the next would be the field notes of the Carpenter survey, but those field notes were introduced in evidence at the hearing in Denver and were not assigned any number at that time, but may be considered as complainant's exhibit No. 5.

By Mr. Keyes: To the introduction of which field notes, objection was made at the hearing in Denver, and the same objection is made

at this time for the reason said complainant's exhibit No. 5 is irrelevant, immaterial and incompetent to any issue in this case.

By Mr. Clancy: I now offer in evidence a certified copy of the field notes of the examination of the survey of the Colorado-New Mexico boundary line, executed by Howard B. Carpenter, as examined by Frank M. Johnson, examiner of surveys, between July 8, 1903 and August 7, 1903, which the examiner will mark complainant's exhibit No. 6.

[fol. 833] By Mr. Ramsey: Defendant objects to the introduction of complainant's exhibit No. 6 on the ground that the same is incompetent, irrelevant and immaterial, and does not tend to throw any light upon any of the issues of this case.

By Mr. Clancy: I next offer in evidence a photographic copy of letter from W. A. Richards, Commissioner of the General Land Office, addressed to Mr. B. H. Carpenter, under date of February 25, 1904, which contains an acceptance by the Commissioner of the survey made by Mr. Carpenter, which is marked complainant's exhibit No. 7.

By Mr. Ramsey: The defendant objects to the introduction of complainant's exhibit No. 7, upon the ground that the same is incompetent, irrelevant and immaterial, and does not tend to throw any light upon the issues in this case.

By Mr. Clancy: I next offer in evidence a copy, certified by the Surveyor General of New Mexico, of diagrams of T. 32 N., R. 4 W., and T. 32 N., R. 7 E., accompanying the special instructions dated June 20, 1907, for the survey of said townships, which the examiner will mark complainant's exhibit No. 8.

By Mr. Ramsey: The defendant objects to the introduction of complainant's exhibit No. 8, upon the ground the same is incompetent, irrelevant and immaterial, and does not tend to throw any light upon the issues in this case.

By Mr. Clancy: I now offer in evidence the report of Alonzo E. Compton, Assistant Supervisor of Surveys, to Frank M. Johnson, Supervisor of Surveys, which report is dated November 20, 1916, and is entitled "report of an investigation in alleged overlaps along [fol. 834] the Colorado-New Mexico State Boundary in Townships 32 N., Rs. 1 and 4 W. and R. 1 E," which the examiner will mark complainant's exhibit No. 9.

By Mr. Ramsey: To which defendant objects for the same reasons as stated in the objections to the preceding exhibit.

By Mr. Clancy: I offer in evidence a certified photographic copy of the diagram showing overlap and conflicts along the Colorado-New Mexico state line in T. 32 N., R. 4 W., as developed by investigations made November, 1916, by A. E. Compton, Assistant Supervisor and F. M. Johnson, Supervisor, which the examiner will mark complainant's exhibit No. 10.

By Mr. Ramsey: Defendant objects to the introduction of complainant's exhibit No. 10 for the reason same is irrelevant, incompetent and immaterial, and does not tend to throw any light upon the issues in this case.

Mr. Clancy: I offer in evidence copy, certified by the U. S. Surveyor General for New Mexico, of the field notes of the survey for the resurvey and restoration of that portion of the original boundary line between Colorado and New Mexico, embraced between the 203 mile corner and the 7th ast. mon., as surveyed by Eliud N. Darling, surveyor and astronomer in the year 1868, executed by William C. Perkins, U. S. Surveyor, which the examiner will mark complainant's exhibit No. 11.

I now offer in evidence a copy, certified by the U. S. Surveyor General for New Mexico, of a plat showing restoration and resurvey of a portion of the Colorado-New Mexico boundary line as surveyed by William C. Perkins, U. S. Surveyor, between September 2, and November 3, 1917, which the examiner will mark complain-[fol. 835] ant's exhibit No. 12.

I next offer in evidence a letter dated August 3, 1917, from Frank M. Johnson, supervisor of surveys, addressed to Frank W. Parker, Chairman of the New Mexico Boundary Commission, together with blue print referred to in the letter, which the examiner will mark complainant's exhibit No. 13.

I next offer in evidence House of Representatives Document No. 604 of the first session of the 57th Congress, which the examiner will mark complainant's exhibit No. 14.

By Mr. Ramsey:

The defendant objects to the introduction of complainant's exhibit No. 14 on the ground that the same is incompetent, irrelevant and immaterial, and does not tend to shed any light upon the issues of this case.

By Mr. Keys: And upon the further ground that the only survey ever approved by competent authority was the Darling survey.

By Mr. Clancy: I next offer in evidence Senate Document No. 89, of the 3rd session, 58th Congress, which the examiner will mark as complainant's exhibit No. 15.

By Mr. Ramsey: Dedendant objects to the introduction of complainant's exhibit No. 15 for the reason that the same is incompetent, irrelevant and immaterial.

By Mr. Clancy: I offer in evidence House of Representatives Report No. 1726, 1st session, 60th Congress, which the examiner will mark complainant's exhibit No. 16.

By Mr. Ramsey: Same objection as to preceding exhibit.

[fol. 836] By Mr. Clancy:

I offer in evidence Senate Document No. 604, of the 2nd session, 60th Congress, which the examiner will mark complainant's exhibit No. 17.

Adjournment taken until 1.30 P. M.

GUY P. HARRINGTON, first being duly sworn, testified as follows:

By Mr. Clancy:

Q. What is your name and place of residence?
A. Guy P. Harrington, Santa Fe, New Mexico.
Q. What is your occupation?
A. Assistant Supervisor of Surveys, General Land Office.
Q. How long have you held that position?
A. Since April 6, 1922.
Q. What had been your position or occupation before that time?
A. Cadastral engineer in the same Bureau.
Q. How long have you been in the service of the land office?
A. Since 1907, 15 years.
Q. What have been your duties during the time that you have been in the land office, in a general way.
A. Making surveys and supervising surveys pertaining to the public land.
Q. In the course of that service, have you had occasion to do any work in connection with the boundary between Colorado and New Mexico.
A. Yes sir.
Q. When was that and what was the nature of the work that you had to do.
A. In 1919, I was on the boundary line between Colorado and New Mexico for the purpose of making a survey showing the closures of the Colorado surveys and the New Mexico surveys, that is showing where the relative positions of the closings of public land surveys [fol. 837] of the two states on the state line.
Q. Did you have occasion to examine the closings of those surveys in detail.
A. Yes sir.
Q. To what extent.
A. I retraced all the section lines in ranges 1 E. both in Colorado and New Mexico, and ranges 1, 2, 3 and 4, W. in both states; that is, the closings on the line and I retraced in detail all of the homestead entries and patents which had been issued by the United States and entered by the U. S. on both sides of the lines and made what you would call a metes and bounds survey of each patented or entered tract in connection with that work.
Q. Did you at that time become familiar with the Carpenter and Darling surveys—line surveyed by them?
A. Yes sir.
Q. Did you find that any of the closings of the homestead entries that you retraced and surveyed—was there any discrepancies or difference between the closings as to which line they were closed on.
A. Yes sir.
Q. Tell us all that you recall about that.
A. I found from the condition of the closing, of course by the surveys closed I refer to the regular sub-division or sectional lines when I speak of the surveys; that there is one set on the Colo. side and another on the New Mexico side, and the sectional lines running

north or south from each set were to be projected—that is, the intent of the survey was to project the lines to a point of intersection with the boundary between Colo. and N. Mex., and I found that in most—there are very few cases where this projection and intersection with the line had been properly made and noted. In range 1 west, for instance, the Colorado surveys closed and stopped at a point [fol. 838] much further south than the boundary line existed on the ground, close to half a mile, and in that same township the New Mexico surveys closed on a point, approximately, measuring from the section corners, very close to the present boundary line; that's the condition in range 1 west. That condition existed in ranges 2 and 3, although not so marked, and in range 4 the closings were originally exactly on the Carpenter line. No note was taken of the Darling line whatever. Part of my work was to note the intersection these lines made with the Darling line as restored in 1917, but in that connection I didn't destroy any closings made on the Carpenter line. Those corners remained just where they were in accordance with my instructions, being a trip that there was a question as to its status. It was my understanding that neither set were to be destroyed, although, for matters of information I was directed to tie on to the Darling line and make the closures there. I found in regard to patents that the United States had patented land on the Colorado side clear down into New Mexico, south of either the Darling or the Carpenter line. One homestead entry, I remember, Archuleta's in the vicinity of Edith was that way. On the other hand the U. S. had patented land on the New Mexico side to the Darling line. Both of these patents were issued in accordance with the township plats. The result was that on the south of the Darling line there was a strip of land that was doubly patented. That is, it was patented to one man on the New Mexico side and another man on the Colorado side. As far as the titles are concerned and as far as the position of the land on the ground is concerned, it makes absolutely no difference as to these people's rights, whether the Darling line is the state line or the Carpenter line is the state line. They have a certain tract of land in either case; the man in Colorado has a tract of land which [fol. 839] is described by fractional lots; now if the Carpenter line is accepted as the boundary line and so determined that fractional lot and subdivision which the U. S. patent is still going to be on the ground and still his land, even though part may be in New Mexico, because the section corners are there and the subdivision is there, and vice versa. Of course all of those lands are described by sections and legal subdivisions and they will not necessarily stop on the Darling or Carpenter line, but in reference to these subdivision corners.

Q. Were there any cases where there was a conflict between the patents that closed on that imaginary line that you speak of, and any that closed on either the Darling or Carpenter line?

A. All in range 1 west, in the vicinity of Edith, there were 4 or 5 conflicts. Practically the whole area of the valley was patented, and there were numerous conflicts all along there from the fact that the Colorado surveys closed to a point nearly half a mile south of

the Darling line, whereas the New Mexico surveys closed close to the Darling line, and the result was a conflict of half a mile in these patents. There is that conflict which exists, and of course, they both hold identical land on the ground; both sides claiming it, but neither one of them are bounded either by the Darling or Carpenter lines, but by an imaginary line.

Q. Is there any way of accounting for the failure to make the closing upon the Darling line, which, as I understand, for administrative purposes has been recognized by the land office as the boundary line.

A. The main reason, probably—which is nothing new to us who have been following these old surveys, and is something we find, very frequently, is that these surveys were made under contract. The locating of a line sometimes entailed a lot of work; it would [fol. 840] take a man quite a little time with a party, which meant expense every day, to find and run and properly close upon it, especially a line run out away from other surveys where it is merely a case of hunting it; he knows approximately from some other ties on the line where it ought to be and he will get a fraudulent tie and falsify his notes and turn them in. That is nothing new, and that is probably the case in most of these closures.

Q. Of course it is apparent that these surveys which closed, as you say something like half a mile below the Darling line, could not have closed on anything they found on the ground; there wasn't anything there for them to close on.

A. No sir, nothing that I ever found. I looked into that; I think their closings are absolutely fraudulent as I calculated. In connection with my [redacted] I hunted out these lines they claimed to have tied to and found nothing.

Q. Will you look at this diagram which has been put in evidence as complainant's exhibit No. 10 in this case, and state if that shows the relative position of the Carpenter and Darling lines and the Colorado closing line.

A. Yes sir, that shows the three different lines; the line of the Colorado closings, the Darling line as restored and the Carpenter line.

Q. Are we to understand that patents were issued for lands according to these Colorado surveys that closed on that line which is really at a point south of the Darling line.

A. Yes sir, I believe that Colorado patents have been issued to that line; at least entries have been made to that line; I don't remember exactly as to what was patented; I am quite sure patents have been issued; I know of several entries on the Colorado side.

Q. Those surveys as you recall, purported to close on the Darling line although they actually did not.

[fol. 841] A. Yes sir, they purported to close on that line.

Q. I believe you said there were New Mexico surveys which closed on the Carpenter line.

A. Yes sir.

Q. And that you left the indications on the ground of that closing.

A. Yes sir.

Q. Do you know whether or not any patents were issued upon those surveys.

A. I believe they have been yes sir, up to the Carpenter line; I know several entries were made and allowed, and I am quite sure the patents were issued, but I can get that information for you up to the Carpenter line, according to the closings on the Carpenter line on the New Mexico side.

Q. Can you check that up without much trouble or inconvenience.

A. I can in about two minutes.

Q. If you will do that, we had better suspend for a few minutes.

A. There are no entries in T. 32 N., R. 7 E.; most of that is in a national forest. In T. 32 N., R. 4 W. there are 4 patents which extend to the Carpenter line. Roque Gallegos, has lot 1, Sec. 8, lots 3 and 4, Sec. 9, serial No. 012788. The original survey of T. 32 N., R. 4 W. was closed on the Carpenter line and as a result of my work up there, where closings were made on the Darling line as restored; a supplemental plat has been prepared and they have changed the closings so that the plat upon which they are using now stops at the Darling line. These entries were made and patented before this new plat was made. Subsequent to the Carpenter survey and prior to 1919 when these closings were made on the Darling line, no closings were made on the Darling line. Jose D. Sandoval, lots 1 and 2, Sec. 9, serial No. 012760; those lots are bounded on the north by the Carpenter line. Demetrio Madrid, lots 2, 3 and 4, Sec. 10, serial No. 012601; the north boundary of these lots is the Carpenter line. Antonio D. Lorenzo, lot 4, Sec. [fol. 842] 11, Serial No. 126125, the north boundary of which is the Carpenter line.

By Mr. Keyes: Have you the plat from which these were taken.

A. I just consulted it in the land office.

Q. Are they available there so they could be brought in by you.

A. I think I can get one from the Surveyor General's office, a duplicate of it. I want to make one explanation in regard to these different surveys. This survey which closed on the Darling line is purported here to have been made by Fred C. Miller and I have been referring to it as my survey. I want to explain; Fred C. Miller, although this appears under his name on the record, died while on that work of the 'flu' without turning in any notes, so I went up there and practically had to do the whole thing over. That's why I have been referring to it as my survey.

By Mr. Clancy:

Q. Was that the extent of your work that brought you in contact in any way with the boundary line between the two states.

A. Yes sir, that's practically all the contact I had with the line.

Q. Have you any fact within your knowledge that would be of any benefit to either side in this case. I think you must know what the controversy is about and I don't know whether there is anything else that you know of, but if there is, tell us about it.

A. There is one fact I might bring out, probably a matter of information more than anything else. It appears to me that the po-

sition of this boundary line, whether the proper boundary line between Colorado and New Mexico is the Darling or Carpenter line, isn't going to make any difference as I see as to the titles in either state. That's one point that occurs to me. If the state line should be moved up to the Carpenter line, that doesn't mean all of those Colorado entries have got to stop at that line, or if it is moved to the Darling line as recognized by the land office, that isn't going to cut [fol. 843] off New Mexico entries; they have all their descriptions by legal subdivisions in certain sections. A change in this line, is going to mean that the land may be in a different state. It will not effect these titles because the U. S. owned the land on both sides of the line. A section or subdivision of a section is a separate and distinct proposition absolutely identified, and the position of the state line will not make any difference on either side.

Q. Your idea being that as the land belonged to the U. S., a deed from the U. S. in the form of a patent will convey the land whether it is in Colorado or New Mexico.

A. Yes sir, the name of a state in a patent may be given as an incidental part of the patent, but if a Colorado entryman has a patent for a certain subdivision of a section which can be absolutely identified on the ground by section corners, the fact that he happens to fall in New Mexico, is not going to deprive him of his land. The only change will be the name of the state. His land is there regardless of what line is adopted, or what state he may be in.

Cross-examination.

By Mr. Keyes:

Q. Is that given as a legal opinion, Mr. Harrington.

A. Just given as a personal opinion.

Q. In the event a Colorado entryman should have, for instance, in a particular township a certain section, and in the event, according to the plat another entryman in New Mexico should have another section in New Mexico and there should be a conflict between those two lines, don't you think it might effect the title of this overlapping patent.

A. What might.

Q. The change of a boundary line and therefore the corners limiting the sections.

A. There will not be any change in the corners of the sections.

Q. Isn't it true that now according to the Darling line, the corners have been marked of sections and that the respective sec- [fol. 844] tions come down, for instance, to the Darling line.

A. Not necessarily.

Q. Suppose that is the case, don't you think then it might effect the title to the lands in the strip in controversy.

A. I don't think the position of that line, the actual line, that is, I don't think that a decree which will set either one of these lines as the line between the two states, will have any effect whatever on the titles to any land.

Q. Isn't it true that in many instances at least the sections and quarter sections have been marked down to, for instance, the Darling line.

A. Yes sir, some of them marked on the Darling line, beyond it and this side of it and every old place. In further explanation, those sections have a certain line as a limiting boundary. We can determine that line from the plats and follow out the section lines, but it isn't going to make any difference in this case; in one case the limiting of the section may be the Darling line and in another case it may be the Carpenter line. They limit those sections, it is true, but the fact that one of these lines is the boundary between the states doesn't make any difference, provided these sections have a limit by a certain line, but it doesn't make any difference whether that line is between the two states or not. Just so you got the right line, for the limit of the section.

Q. Are you familiar with patents on each side of the line.

A. I was before, but just like I had to do here, I had to go and refresh my memory. I had a record of all the patents at one time, but it is several years ago and I have forgotten the status of the Colorado side.

Q. What line and survey is now recognized by the U. S. land office as the boundary between Colorado and New Mexico.

A. The Darling line.

Q. The surveys of all patents issued in the vicinity of the 37th par. north latitude between the states are closed on the Darling line at the present time.

A. No, they are closed every place there. The patents I just [fol. 845] testified about were on the Carpenter line and I testified they had previously been issued on the Darling line and also on the imaginary line.

Q. Is there any authority given by the U. S. land office for closing on any other line than the Darling line.

A. Not at the present time.

Q. Was there ever any surveys closed on any other than the Darling line except in the one township concerning which you have testified

A. I testified there were two townships where they closed on the Carpenter line and I also testified there were several townships that were not closed on any line, just an imaginary line, although the records show they were closed on the Darling line.

Q. Was there ever any authority from the U. S. land office to close on any imaginary line.

A. No sir.

Q. The instructions from the U. S. land office have always been then to close on the Darling line except in the two townships testified to.

A. As far as I know, yes sir.

Q. The Darling line has always been recognized as the existing boundary between the states except during a temporary period when the Carpenter line was recognized in those two townships.

A. By the land office.

Q. You understand that there have been 4 patents issued closing on the Carpenter line.

A. Yes sir.

Q. Were those patents issued during that short period of time subsequent to the Carpenter survey when the land office temporarily recognized the Carpenter line?

A. I don't know just what the limiting date, or I don't know the interval when the land office recognized the Carpenter line and when they didn't. I will say these patents were issued sometime—the survey was made in 1909, these patents were issued sometime between 1910 and 1949. That's my opinion they were.

Q. The instructions given by the U. S. land office to surveyors [fol. 846] at the present time is to close the surveys, it is not, on the Darling line.

A. We haven't closed any but this one group recently. This group in range 1 E and ranges 1, 2, 3 and 4 West, those 5 townships we were instructed in that case to close on the Darling line; also we tied to the Carpenter line. None of these were original surveys; more on account of the controversy that these surveys were made. We haven't closed any original townships against this resto[illegible] Darling line.

Q. There are many other patents that have been issued in the vicinity of the 37th Par. between 103 and 109 meridian, than the four you have mentioned.

A. Yes sir.

Q. All of those others, without exception, so far as you know, were supposed to go to the Darling line.

A. They were supposed to as far as I know.

Q. The Darling line is the line that has been recognized by the U. S. land office, since the approval of the Darling survey way back in 1869, is it not?

A. I presume it is, as far as I know it has, except this interval when the Carpenter line was recognized.

Q. If errors were made by individual surveys in the survey of sections going either north or south of the Darling line, it was not through any instructions given by the U. S. land office.

A. The land office never gave them instructions to make errors, no sir.

Q. Did they give instructions to go north or south of the Darling line.

A. I don't presume they did; they gave instructions to go to the Darling line.

Q. How many townships have you surveyed in the region of the boundary between Colorado and New Mexico.

A. I haven't made the original survey in any township. This survey I made in T. 32 N., R. 1 E. and the same township, R. 1, 2, 3 and 4 W. was, you might say, a survey for information; to locate [fol. 847] the various positions of these lines and the various positions of entrymen and as to what extent the same extended into

New Mexico and across the line. I didn't make the original survey on any of these, merely to get all these points down and located; also the object of that was to correct the erroneous closing, to get the proper closing.

Q. How can you tell from this plat, to which you have referred, that any of the 4 patents concerning which you have testified, close on the Carpenter line.

A. You don't see any lot numbers that are covered in these patents. You will find lot numbers on this other plat (indicating).

Q. There is nothing on the plat showing the restored Darling line that would indicate how far north the patented land would come.

A. The patents were not issued on a basis of this plat showing the restored line. They were issued on the basis of the previous plat although the Carpenter line is projected, and the distance between the Carpenter and the Darling line given. There is a tie between the 100 mile corner of the Carpenter Line and the Darling line which shows they have been tied together and the position on that plat is approximately the position of the Carpenter line.

Q. Is it not true at the present time all official plats in the U. S. land office, so far as you know, show the Darling line as the recognized boundary between Colorado and New Mexico?

A. It isn't true, but generally, yes sir, making that statement as broad as you make it, it isn't true. T. 32 N., R. 7 E. still remains on record and on file as closing on the Carpenter line. Generally, yes, but not in every case.

Q. Isn't it true that even in this township, according to the more recent surveys of the land office, the boundary between the two states is shown as the Darling line.

A. That question is so general it is hard to answer. That plat on file in the land office and various offices, still stands as originally surveyed. There is an exception that stands as originally surveyed closing on the Carpenter line, the reason is, nothing has come up to [fol 848] cause the U. S. to close it on the Darling line. If they opened up land for entry, it would require closing on the Darling line, as they probaby wouldn't allow closing to the Carpenter line now.

Q. Isn't it true that instructions received from the Commissioner of the General Land office, at or about the time of the recent surveys by Perkins and others, direct that the closings of all surveys between New Mexico and Colorado be made upon the Darling line.

A. I couldn't say for sure as to the wording of those orders, but it is my understanding that the Commissioner of the land office recognizes for the purposes of the land office, the Darling line as the boundary. Just how that was promulgated out here, I couldn't say exactly. I could look it up and get it, but as to whether he said all surveys be closed on that line hereafter, I don't know. It is no doubt the intent of the Commissioner that all surveys be closed on that line; it is understood by all of us that the Darling line is recognized by the land office, and the line that we recognize, as far as our work, as the state line.

Q. Did I understand you to testify that some land along the boundary of Colorado and New Mexico had been doubly patented.

A. Yes sir.

Q. What do you mean by that, and if so, would or would not the titles to the land be effected.

A. As I said before, the designation of a certain line as the boundary between Colorado and New Mexico doesn't make any difference is the way I look at it, regarding titles. There has been some lands doubly patented; that is in range 1 W., notably in the vicinity of Edith, Colorado; plats showing closures at imaginary line which was supposed to have been the Darling line, but which isn't the Darling line. Patents have been issued to several people in Colorado and likewise in New Mexico. The U. S. has given patents to entrymen to a point up here, (indicating on plat) approximately the Darling line; then in New Mexico patents have been issued to points approximately the Darling line; the result is a strip of land [fol. 849] which is covered by both patents. You will find the Carpenter line at a point north of both of these closures. Of course you have a piece of land there in controversy; there is no doubt but that both parties hold patent to it; that is something to be determined in the courts as to the ownership, but the fact of whether you call this line here which is approximately closed on by the New Mexico surveys the boundary line, or whether you call this Carpenter line up here, a quarter of a mile north, the boundary line, or whether you call the boundary line here at this imaginary line, it will not effect the position of these persons' holdings. They were given a patent by the U. S., and the fact that you move this line back and forth, you have their boundaries defined, they were given parts of certain sections; their patents don't state so much land a mile square south of the Carpenter or Darling line or the boundary line; they say certain subdivisions of certain sections in townships and ranges, so I don't see where any line designated as the state line will effect any titles.

Q. How do you explain the fact that these parcels were doubly patented.

A. Through erroneous survey.

Q. Did the fact of a difference in the survey of Carpenter and Darling have any effect; in your opinion, upon the doubly patent of the respective tracts.

A. Absolutely not a bit.

Q. Isn't it true that not only sections in the vicinity of the 37th Par. between Colorado and New Mexico, closed upon the Darling line, but also the surveys for counties, school districts, municipalities, voting precincts, have likewise been closed upon the Darling survey.

A. Of course in my work I know nothing of the surveys as to what has been done, except sections, that is, the work done by the general land office, but I will say that there has been a case up there which has been quite noted, of where there has been a misunderstanding and uncertainty as to the boundaries of municipalities and [fol. 850] counties. The town of Edith, which we used to call Edith, Colo., practically all of it lies south of the Darling line, but it is

well known that Edith precinct when it comes to voting was always voted in Colorado.

By Mr. Clancy: Including the part that is south of the Darling line.

A. Yes sir, the old original sawmill town always voted in Colorado, in Archuleta county.

By Mr. Keyes:

Q. Was that through a misunderstanding of where the Darling line was?

A. I don't know the cause, but I presume it was.

Cross-examination.

By Mr. Ramsey:

Q. Under whose instructions did you make the examination which you have testified about in your testimony in chief.

A. The technical instructions were issued by the Surveyor General of New Mexico and approved by the Commissioner of the General Land Office. The assignment instructions were issued by the Assistant Supervisor of New Mexico and approved by the Supervisor of surveys.

Q. Have you the instructions given to you by those officials.

A. No, but I think I could dig them up.

Q. After you made your examination, to whom, if anybody, did you make a report of what you discovered.

A. I filed my notes and report with the Surveyor General for New Mexico.

Q. Did you file them with the General land office of the U. S.

A. They eventually get there, but our procedure is to file them with the Surveyor General, who makes the plat and then forwards a copy of the notes.

Q. Are these tracts of land that you have mentioned, indicated by any particular number or group.

A. Which tracts do you mean.

Q. The ones you mentioned that you examined and investigated [fol. 851] and made a report on.

A. Yes sir.

Q. What group were they known by or number.

A. The metes and bounds tracts that I surveyed for entrymen and for patents in the various townships, all carry what we call a tract number; we connect them up with their serial number. Generally we number these claims starting in with tract No. 37 and carry them on up, 37, 38, 39, and connect that tract up with the name of the patentee or entryman, and also the serial number under which it is filed in the land office. They are identified in that way.

Q. This was not known as group 79.

A. Yes sir.

Q. Known to the general land office as group 79.

A. Yes sir, then Colorado has a joint survey, No. 93, I believe is their number.

Q. Didn't the instructions from the general land office in regard to group 79 specifically state that all closings of public surveys should be upon the Darling line.

A. I will look and see; date of instructions July 2, 1918. Under the heading 'limits and character of work' I find this paragraph "closing on the subdivisional surveys in T. 32 N. R. 4 W. in Colorado upon the reestablished Darling (Survey of the Colorado-New Mexico boundary line)." Next place where it speaks of that "closing of the subdivisional surveys in T. 32 N., R. 1 and 4 W. and 1 E. in New Mexico upon the reestablished Darling (survey of the Colorado-New Mexico boundary line)." Next paragraph, "survey the proper steps to mark the position of entries mentioned for future adjudication." A different survey is authorized by the commissioner dated March 20, 1917. There may be some more detail if you went further down.

Q. Did you make any report to Frank M. Johnson, Supervisor of surveys of your work.

[fol. 852] A. No.

Q. Was your work, if you state you reported to the general land office, ever acted upon in any way by that department.

A. Yes, it has been acted upon; in fact, here is a township where the survey has been accepted. Some have been and others are still in course of preparation, etc. I think all of them have been before the general land office and some of them have been back for minor corrections.

Q. This group 74 as shown on this plat that you have mentioned in your direct testimony, that's group 79.

A. Yes sir.

Q. This shows that the Carpenter line was abandoned.

A. Yes sir.

Q. Abandoned by whom.

A. I couldn't say.

Q. What is the meaning of that word abandoned after Carpenter line.

A. Means abandoned.

Q. Do you know when that Carpenter line was abandoned.

A. No, I presume—I couldn't give the date of it, no sir.

Q. Mr. Harrington, in 1902, at the time that the Carpenter survey was made, where was the boundary line between New Mexico and Colorado.

A. I couldn't tell you.

Q. Didn't none of the plats, maps or work that was done by previous government officials indicate to you where the line was.

A. You are having this case to determine where the line is.

Q. I am asking you where the line was in 1902, previous to the time the Carpenter survey was made.

A. There can only be one correct place for that line.

Q. Where is that.

A. I don't know; you have this suit to determine it.

Q. Don't you know where the boundary line between New Mexico and Colo. was previous to 1902.

[fol. 853] A. The same place it is now.

Q. Where was that.

A. I don't know.

Q. Wasn't it the Darling line.

A. The Darling line at that time was recognized by the land office as the line is now.

Q. It was so shown on plats, surveys, government records as the only boundary line between New Mexico and Colorado.

A. Yes sir.

Q. Isn't it a fact that so far as the federal government is concerned, and so far as the records of the general land office show, that the Darling line has continued to be the boundary line between Colorado and New Mexico since 1902 and prior thereto.

A. You put that pretty broad, the federal government. I can say the land office, as far as the general land office is concerned, of which I am an employe, has recognized the Darling line as the boundary line between New Mexico and Colorado since the time of the survey up to the present time with the exception of the brief period when they were recognizing the Carpenter line as the proper line as far as I know.

Q. Then from the time the Darling survey was made and approved in 1868 or 1869 up to the present day, the Darling line has been invariably recognized as the true boundary line between New Mexico and Colorado, as you say with one exception, is that correct.

A. As far as the land office is concerned, it has been recognized.

Q. Has the land office ever at any time recognized the Carpenter survey, a line established by him, as the true boundary line between the two states, and if so, when.

A. The Commissioner of the land office accepted the boundary line survey, so he must have recognized if to some extent; I don't know how far, but he caused surveys to be closed against it at some time during that period.

[fol. 854] Q. Has the general land office by any action in the way of orders, official instructions or records of any kind, recognized the Carpenter survey made in 1902 as the true boundary line between Colo. and New Mexico—was that ever done.

A. They must have recognized it——

Q. I am asking you to speak from your knowledge of what was done.

A. I know the commissioner of the general land office ordered two townships to be closed against the Carpenter line and I know that at that time the Commissioner regarded that as the boundary line between the two states, otherwise he would not have issued those instructions.

Q. Was such an order as that, if made, ever changed, and if so when was it changed.

A. I don't know that the order was ever changed; the commissioner of the land office later said—previous to the instructions of this group 79, said the land office would recognize the Darling line as the boundary line between the two states.

Q. Do you know how long after that that the order was made to close on the Carpenter line.

A. According to these instructions—two letters, March 15 and March 20, 1917 from the commissioner; those were the dates of the letters under which these surveys were directed to be made.

Q. It is a fact, isn't it, Mr. Harrington, that at the time that Colo. was admitted into the Union as a state, August 1, 1876, there was no such line known as the Carpenter line or survey.

A. Yes sir.

Q. The only boundary between the two states was that known as the Darling line, wasn't it.

A. That was the only surveyed boundary at that time.

Q. Wasn't it the only boundary in existence.

A. The boundary is really the 37th parallel; that was the only boundary line marked on the ground.

[fol. 855] Q. The only one marked on the ground.

A. Yes sir.

Q. When the Carpenter survey was made in 1902 was Colorado represented at the making of that survey that you know of.

A. I don't know.

Q. Was New Mexico represented.

A. I don't know a thing about it.

Q. Wasn't the Carpenter survey a purely ex-parte survey.

A. I don't know as to that; I don't know any of the details which lead up to the making of that.

Q. Then notwithstanding any defects or errors that may have been discovered or reported by surveys at any time, the general land at the time this suit was brought, and at the present time, recognizes and accepts the Darling line as the true boundary line between the two states.

A. Yes sir.

Q. Has New Mexico, so far as you know, by any action, taken either as a territory or as a state, ever adopted the Carpenter survey and line as the boundary line between the two states.

A. I don't know.

Q. Do you know the reasons that the Carpenter line as shown upon the plat you have referred to in your direct testimony was abandoned.

A. I know the reason in a general way, yes sir.

Q. Why was it.

A. I can answer that by saying that the reason was that the President vetoed the joint resolution of Congress accepting the survey.

Q. That was in 1908.

A. I am not certain of the date. I only know that from what I have learned.

Q. It is your personal opinion that it wouldn't make any difference so far as titles to land is concerned, whether the Darling line or the Carpenter line was recognized as the boundary line between the [fol. 856] two states, is that correct.

A. Yes sir.

Q. If the Carpenter line should be recognized as the true boundary line or decreed as such, a strip of territory which is now the state of Colorado would be added on to the State of New Mexico, wouldn't it?

A. I wouldn't say that because I would be deciding this suit.

Q. I said "if." Do you say it wouldn't make any difference?

A. New Mexico of course claims that the strip is theirs now.

Q. (First question on this page repeated to witness.)

A. I don't know, because I don't know where the boundary line is.

Q. There is a difference between the Carpenter and Darling line?

A. Yes sir.

Q. There is territory betwegn the two lines?

A. Yes sir.

Q. The Darling line is south of the Carpenter line?

A. Yes sir.

Q. Necessarily if the line was moved up further north, it would necessarily take off a strip from Colorado and put it in New Mexico, wouldn't it?

A. May be that line is north of the——

Q. I am not asking you to determine this suit; I said if the Carpenter line should be determined to be the line, wouldn't it take off a strip from Colorado and give it to New Mexico?

A. I don't know whether that territory belongs to Colorado.

Q. As I understand you, I want to be clear about this, as I understand you, you say the government land office recognizes the Darling line as the boundary line between the two states at this time?

A. Yes sir.

Q. If a change should be made and instead of recognizing the Darling line as the boundary line, the Carpenter line should be declared the boundary line, what would be the effect of that so far as ter- [fol 857] ritory is concerned. Would it take any off of Colorado or not?

A. The commissioner of the general land office might decide to recognize the Carpenter line next week, would that necessarily make the Carpenter line the boundary line right now between two states?

Q. If you will notice my question, Mr. Harrington, I base it upon the proposition that the Carpenter should be recognized as the boundary line, and so decreed as I stated.

A. If they decreed the Carpenter line as the proper boundary line, it always has been the boundary line, it wouldn't be taking—if this case is decided that the Carpenter line is the boundary, Colorado wouldn't be taking any land from New Mexico; there is where the line belongs or where it has been, so you wouldn't be taking any land.

Q. It wouldn't effect Colorado at all so far as land concerned?

A. It might, I don't know.

Q. How could it help from effecting them?

A. Of course if the Carpenter line is decreed as the boundary line between the two states it would dispossess them of land that belongs to New Mexico.

Q. Do you confine your statement that it wouldn't make any difference which of these two lines was made the boundary line to the mere matter of land titles; do you limit it to land titles, or do you go further than that and say it doesn't make any difference at all?

A. I mean land titles; what I meant before was land titles.

Q. If the change was made, it might make a difference as to whether a man's home was in the State of Colorado or the State of New Mexico, might it not?

A. As regarding the way things stand now, it might.

Q. It might make a difference as to where he voted might it not?

A. It might.

Q. Wouldn't it make a difference as to which state he had a right to hold office, in one state or the other?

[fol. 858] By Mr. Clancy: Objected to as entirely irrelevant he limited his statement to the effect it would have upon titles to land.

Q. Wouldn't it necessaraly change the county lines, election districts, voting districts, taxing districts, water districts, land districts, and court districts?

A. It might change the boundary line of them, yes sir; that is, wherever the state line is located, of course, it would be the line of jurisdiction between the two states.

Q. Wouldn't this also be true—might it not in a case of this kind, where a crime was committed be a question as to whether the courts of Colorado or the courts of New Mexico would have jurisdiction to try that crime?

A. If the Darling line is decreed to be the line, that is, the mark on the ground, that would depend upon which side of that the crime was committeed.

Q. It would effect a matter of that kind?

A. The moving of that line wouldn't make any difference.

Q. If the line was declared to be the boundary between the two states?

A. Suppose the Carpenter was declared to be the boundary line, then a crime committed south of that would necessarily be in New Mexico and north of it in Colorado, or if the Darling line, the same thing. You can move the line and after it is moved and established you di-n't have any trouble finding out what state it is in. You are having trouble all the time right now while this case is pending; a crime committed between the Carpenter and Darling line is a great uncertainty. In fact there was a crime committed on that strip and there is no doubt about that. But you get one or the other of these lines settled, then there is no more trouble.

Q. Have you any official instructions, orders or documents of any kind from the general land office at Washington in which the Carpenter line or survey is recognized or declared to be the boundary line between Colorado and New Mexico?

[fol. 859] A. I haven't in my own personal possession, but upstairs——

Q. I am asking if you have?

A. Not in my own personal possession but the files in the office have.

Q. At the present time, a taxpayer who lives in New Mexico below the Darling line is assessed for taxation in New Mexico, isn't he?

A. I presume so.

Q. If he is above the Darling line, he would be taxed in Colorado?

A. I don't feel that I am competent to answer all of these questions on the proposition of taxation. I might, for instance, state on this taxation matter, he is liable to be taxed any old place.

Q. If he was between the Carpenter line and the Darling line, and the Carpenter line should be decreed the true boundary line between the two states, then he would be taxed in New Mexico?

A. He should be, he might not be.

Q. That's where it would be proper for him to be taxed?

A. Yes sir.

Q. If the records of the General Land Office at Washington show that all public surveys in Colorado and New Mexico have been closed upon the Darling line with one exception, that of township 32, is that correct or incorrect; is that record right or wrong?

A. I can't tell that; the record is a record for what it is worth.

Q. I understood you to say that that was the fact except in two instances.

Q. Are you asking about the record or are you asking about the surveys? I don't understand the question. I will answer it if I can get what you want.

Q. Above question repeated.

A. I don't understand what you are driving at yet.

By Mr. Clancy:

Q. I think Mr. Ramsey is trying to ask you if there is more than one township of that class.

(Question repeated.)

A. I can't answer that question.

Q. Let me see if I understand you; you made a report of your [fol. 860] survey and investigations to the Surveyor general's office and it finally went to Washington to the General Land Office. Did you state that the general land office had accepted and approved your report?

A. Part of them, yes.

Q. This one here, about these two particular matters that you have been discussing. Did the general land office accept and approve your report on these two townships?

A. I never had anything to do with these. They were surveyed under contract.

Q. Did the general land office then accept and approve the report that you did make to them about your surveys and investigations?

A. I can look up the status of that; I know they accepted part of the townships; whether it has all been accepted I don't know, but I can find out.

Q. Whatever action the department, the general land office took upon your report and investigation, they have since that time directed that all public surveys be closed upon the Darling line, have they not?

A. I think it is generally understood, they have, yes sir.

Q. That is what they have been doing?

A. Yes sir, that's understood.

Q. Notwithstanding all that has been testified by you and other persons in reference to the line, the instructions now are to close public surveys on the Darling line?

A. Yes sir the instructions are that.

By Mr. Clancy:

Q. Mr. Harrington, I want to see if I understand just what you mean; you said that the establishment of the boundary line on the Darling line or the Carpenter line, or the recognition of either line, would not effect land titles. Let's suppose a case like this: that two surveyors surveying adjoining townships and through an error of one [fol. 861] or both, the man that surveys Sec. 1 in that township on the west overlaps into what ought to be Sec. 6 in the adjoining township, or *visa* versa, and both surveys on their face apparently good and are accepted and entries made and patents issued which would cover the same land by the descriptions because of that improper overlap. If I understand you correctly, your position is that as to these doubly patented lands up here in the vicinity of the southern boundary, would stand in the same position as these doubly patented lands would in case of a survey like that, and it would be a matter of the patents and would have to be fought out between themselves?

A. Yes sir.

Q. That whether the land that Roque Gallegos gets a patent for is norther or south of the state line, his title remains perfectly good and if another man has obtained a patent that overlaps on his line, it will be a legal question to be decided by the courts as to who owns the land.

A. Yes sir, what I intended to bring out all the way through, it doesn't make any difference what line you designated as the boundary line between Colorado and New Mexico, you can make a new line or anything else, it isn't going to effect the titles to any lands. That's what I want to bring out.

Adjournment taken until 10 A. M. following day.

By Mr. Clancy: I will offer in evidence those portions of the instructions to the Surveyor under contract No. 408 so far as they relate to township 32 N., R. 4 W. and T. 32 N., R. 7 E., and which the examiner will mark complainant's exhibit No. 18.

I also offer in evidence plat of the survey of township 32 N., R. 4 W. based upon the survey under the said contract No. 408 as appears by the certificate of the Surveyor General on the plat, which is to be marked complainant's exhibit No. 19.

[fol. 862] I also offer in evidence plat of the survey of township 32 N., R. 7 E., based upon the survey made under contract No. 408, and which is to be marked complainant's exhibit No. 20. Of these plats I will furnish copies to the examiner to be transmitted with the testimony as soon as I can get them made by the Surveyor General.

By Mr. Ramsey: Defendant objects to the introduction of complainant's exhibits Nos. 18, 19 and 20, upon the ground that the same and each of them are incompetent, irrelevant and immaterial to any issue in this case.

GUY P. HARRINGTON

Cross-examination by Mr. Ramsey continued:

Q. A letter dated July 6, 1918 from the Commissioner of the General land office to the U. S. Surveyor General at Santa Fe, N. M. states: "The line as established by Carpenter was surveyed without regard to the original Darling survey on the 37th parallel and the practical effect of the Carpenter line, if adopted, would be to remove a strip of land along the major portion of the boundary which includes several settlements and towns of importance heretofore under the jurisdiction of Colorado and add same to New Mexico." Do you agree or disagree with that state.

A. I agree with parts of it and disagree with part of it. I agree with the first part that the Carpenter line was surveyed without regard to the Darling line, but the latter part I disagree with.

Q. That it doesn't remove a strip of land from the jurisdiction of Colorado into New Mexico.

A. (After reading it.) Yes, I agree with that statement.

Q. According to the position of the general land office at Washington what was the proper closing line of all public surveys in Colorado and New Mexico as regards the boundary between the two states.

A. They first held that the Darling line was the proper one and [fol. 863] then for a time held that the Carpenter line was the proper line and then later and at the present time decided that the Darling line was the proper line upon which to make closings.

Q. At the time the resurvey or restoration of the Darling line was made by Wm. C. Perkins in 1917, and after his survey was reported to the general land office, that restoration of the Darling line was accepted by the land office, was it not.

A. Yes sir.

Q. That acceptance was made in July, 1918, wasn't it.

A. I will take your word for it; I don't know the exact date; I can find out—that's correct.

Q. And from that time on up to the present time, the location of the boundary by Darling, as reestablished in the survey made by Wm. C. Perkins, controlled in all matters of public land surveys and administrative purposes, did it not.

A. Yes sir.

Q. In the letter which I have heretofore referred to from the commissioner of the general land office to the U. S. surveyor general of New Mexico, dated July 6, 1918, is this statement: "It may be added that to re-establish the boundary at any other location excepting in its original position would cause complications and unduly disturb the legal titles to numerous parcels of land acquired in good faith." Do you agree or disagree with that statement.

A. Disagree.

Q. You take the position then that the commissioner of the general land office was wrong in that statement.

A. Yes sir; I am complying with the orders of the general land office in all my duties, but I have my personal opinion in regard to that; my opinion does not agree with the opinion expressed in that letter as regards effecting the titles to land.

Q. I believe you stated on yesterday, referring to the closing of [fol. 864] certain surveys mentioned by you, that they were probably fraudulent or some such language as that. What particular survey, if any, do you refer to in that statement.

A. Particularly to the closings of the survey in township 32 N., R. 1 West, Colorado.

Q. What surveyors do you refer to.

A. The surveyor who made the original subdivision of that township.

Q. Were they individual surveyors or government surveyors.

A. They were surveyors—that is, they had the title of deputy surveyors and probably surveyed that township under contract with the government. That was the usual procedure and I presume that was the case.

Q. Can you give the name or have you in mind any such surveyor that you think was guilty of fraud in closing his survey.

A. Do you mean—where.

Q. At the point you mentioned, T. 32 N., R. 1 W.

A. I can look up the names of the surveyors who made these; I don't recall their names and as to accusing them of fraud, I wouldn't necessarily do that; but I consider that the closing down there, it is my opinion, that the closing was fraudulently made on the Darling line; at least, erroneous. There might not have been any intent on the part of the surveyors to deliberately defraud the U. S., I am not making that statement, but nevertheless their closings were fraudulent and erroneous, as far as the boundary line is concerned.

Q. I understood you to say you made your examination and investigation of the surveys in this particular locality in 1919.

A. Yes sir.

Q. At that time, the conditions in the locality which you have testified about had all been examined by the Supervisor of surveys of the U. S. had they not.

A. The conditions had been examined by the Supervisor, and as [fol. 865] I remember Supervisor Johnson and Assistant Compton prior to the doing of this work.

Q. In restoring the Darling line, had necessarily been examined by Mr. Perkins. Mr. Perkins made the actual restoration of the line in 1917.

A. As a result of and under the instructions and general direction of Mr. Compton, assistant supervisor, who had been on the ground and made examination of conditions.

Q. After the examination of conditions along this Darling line in the vicinity you have mentioned by Frank M. Johnson, Supervisor of Surveys and his recommendations had been made to the general land office, and after the report of the survey made by Mr. Wm. C. Perkins in 1917, the general land office accepted the recommendations and report of the supervisor and of Mr. Perkins, did it not.

A. I believe so, yes sir.

Q. And by both of them the Darling line was recognized as the true boundary between the states of Colorado and New Mexico.

A. I don't know as to that, although correspondence will show; what is in those letters and that correspondence, they will show for themselves; I am not prepared to give all the detail.

Q. There has been no change made by the general land office with respect to the boundary line between the two states since you made your examination and investigation has there, in 1919.

A. Not that I know of, no sir.

Q. You don't know then whether your report was accepted and approved or disapproved, do you.

A. Yes sir, I looked it up yesterday evening.

Q. What did you discover.

A. I found that one of the townships, 32 N. R. 4-W. had been accepted. The remaining townships in question have not been accepted by the land office as yet.

Q. In complainant's exhibit No. 13 offered on yesterday, which is a letter from Frank M. Johnson, Supervisor of Surveys addressed to [fol. 866] Mr. Justice Frank W. Parker, Chairman of New Mexico Boundary Commission, Santa Fe, N. M. I find the following language: "It will be recalled that pursuant to authority of an Act of Congress approved March 2, 1867, (14 Stats. 466) E. N. Darling, U. S. Surveyor and astronomer in the year 1868 established a 37 parallel north latitude so far as it constitutes a boundary line between Colorado and New Mexico. Public surveys were closed thereon; lands were disposed of, rights were acquired and private and political boundaries were fixed in both Colorado and New Mexico, with consideration of the fact that the Darling line had been established and monumented as the northern boundary of New Mexico, adopted and ratified as the southern boundary of Colorado, and accepted by the federal government as the legal boundary between the two states." Do you agree or disagree with that statement.

A. Yes I agree with that.

Q. The same letter contains this language: "It would therefore seem and it is so held by the general land office in all matters coming before that office involving questions of jurisdiction, that the

Darling line of 1868, is the subsisting boundary line between the states." Do you agree or disagree with that.

A. I agree.

Q. The same letter contains the following statement: "Therefore, aside from every other consideration, the Darling line of 1868 by reason of the failure of confirmation of the Carpenter line of 1902 and 1903, is the subsisting boundary line between Colorado and New Mexico, and is consequently the proper closing line for public surveys in both states now, as it has been in the past." Do you agree or disagree with that.

A. I agree.

Q. At the time this letter was written in 1917, is it not a fact that the question of the closing of certain public surveys was then about to be undertaken by New Mexico in the vicinity of R. 1 E. and R. 1, 2, 3 and 4 West.

[fol. 867] A. I presume it was contemplated; it was later taken up, and probably contemplated at that time. It was a joint proposition, it was all handled by the land office, but included New Mexico and Colorado.

Q. After that time, after the date of this letter, August 3, 1917, the Darling line was recognized as the proper closing for the surveys to be made.

A. Yes sir.

Q. A letter dated March 24, 1900 from Hon. B. Herman, Commissioner of the general land office at Washington, to Hon. C. S. Thomas, Governor, Denver, Colo. contains this language, referring to the Darling line and the rights acquired thereunder, as follows: "which is the legal and vested right to hold to the line actually run for the state boundary, accepted as such and forming an unchangeable basis of land office plats, patents, deeds, tax roll, county maps, state maps and all other records of these localities." Do you agree or disagree with that statement.

A. I can't dope out to my own satisfaction just what they are driving at so I can't say whether I agree with it or not.

Q. In your work as assistant supervisor of surveys, do you get your instructions direct from the general land office at Washington or do you get them through the supervisor of surveys of the U. S.

A. As a general proposition through the supervisor of surveys, although some instructions come here direct from the commissioner of the land office, but ordinarily in this case I think the procedure is the supervisor receives a copy of the letter.

Q. In making a report of your work as assistant supervisor of surveys, do you report to the general land office direct, or do you report to the supervisor of surveys.

A. It depends on the class. If its matters of an administrative nature it is handled through the supervisor of surveys, but our reports of surveys, field notes and all official work in connection with [fol. 868] surveys are filed with the surveyor general of New Mexico who goes over the notes and prepares the plats and retains the original notes that are filed in his office, and copies duly certified by himself are forwarded to the general land office.

Q. Referring to the particular work which you did and about which you have testified, did you make your report to the supervisor of surveys.

A. Do you mean my field notes—they were filed with the Surveyor General for New Mexico.

Q. No report was filed with the supervisor of surveys.

A. There is only certain matters that go to the supervisor.

Q. I mean this particular group.

A. That I don't know; I don't know of any report except my weekly reports of progress and matters of that kind went to the supervisor of surveys. I don't know of any. Mr. Compton was then assistant at the time I made this survey and he may know of some reports he filed, but there was one report I will say, although it wasn't in connection with this group, that I made a report to Mr. Johnson; I recall that now, it was duly submitted through Mr. Compton, then assistant and forwarded to Mr. Johnson. It was a matter that developed in this same group in regard to the west boundary of the Tierra Amarilla grant. That is the only thing I remember that I did direct to Johnson, although there might have been some.

Q. This work done by you and about which you have testified as I remember was done some time in 1919.

A. Yes sir.

Q. Was it in 1919.

A. It was in the spring, along May and June.

Q. Was that before or after this suit was filed, do you remember.

A. I couldn't say; I don't know when this suit was filed.

[fol. 869] Q. I want to see if I get a clear idea about the ranges and sections about which you have testified; that is, as I understand, that particular locality there which you have described is known as group 79.

A. Yes sir.

Adjournment taken until 1:30 p. m.

Alonzo E. Compton, first being duly sworn, testified as follows:

By Mr. Clancy:

Q. What is your name and where do you reside.

A. My name is Alonzo E. Compton and I reside at 724 N. 4th St., Albuquerque, N. Mexico.

Q. Are you the same Compton who was formerly assistant supervisor of surveys.

A. Yes sir my services as assistant supervisor terminated last April.

Q. How long had you held that position.

A. About 9 years, or little over.

Q. Prior to becoming assistant supervisor of surveys had you been connected with the land department of our government.

A. I had, yes sir.

Q. For now long.

A. For 6 or 7 years prior to that date.

Q. Do you remember when your connection with the land office began.

A. About 1907 I believe, I took a contract for government surveys.

Q. I see here that on this plat you were doing work in 1907 or at any rate you made a contract in 1907.

A. Yes, sir, I did some work in the fall of 1907, closed down for the winter and I have been connected with the general land office ever since that time until last April, except a brief period one summer in which I did engineering work and reclamation work.

Q. Before 1907 what experience had you had in that kind of work, or education for it.

[fol. 870] A. I graduated as a civil engineer in the University of Valparaiso, Ind. I practiced engineering something over 8 years prior to that. I was county surveyor of Gasper county, Ill. for 8 years previous to taking up engineering work with the government.

Q. We have in evidence here what appears to be a report made by you of investigations as to overlaps along the Colorado-New Mexico state boundary in T. 32 N., R. 1 and 4 W. and 1 E. Did your work in connection with that investigation extend beyond these townships that I just mentioned.

A. No, not beyond those three ranges.

Q. Will you look at complainant's exhibit No. 10, which has been put in evidence here and tell me what you know about that diagram, if anything.

A. Well, that diagram was prepared by me or under my direction as the result of this investigation in range 4 west.

Q. This exhibit No. 10 shows what is marked as Colorado closings on a line some distance of a line which is marked Darling state line. Can you tell us whether there was any similar overlapping in the Colorado closings south of the Darling state line in any other township.

A. Yes sir that overlap extended through ranges 1 west and 1 east also in a more pronounced way it extended over. I won't say just how much further.

Q. You mean that in these other ranges the Colorado closings were further south of the Darling line than this one.

A. Yes, I believe they are and were further than those.

Q. I have here a plat of T. 32 N., R. 7 E. and another of T. 32 N. R. 4 W. which purport to be based upon a survey made by you under contract 408. Did you make the surveys on which these plats are based.

A. Yes sir, I did.

Q. Upon what line, as the boundary line between Colorado and [fol. 871] Mexico, did those surveys close.

A. They closed upon the Carpenter line by direction of the authorities.

Q. Do I understand that the instructions under which you executed these surveys directed you to close on the Carpenter line.

A. They did, yes sir.

Q. Do you know whether or not either of these townships or any part thereof were resurveyed so as to make a change in the closings on the state boundary line.

A. I believe that township 32 N. R. 4 W. was so resurveyed either to make new closings or to determine the status of certain homesteads there.

Q. Do you know whether or not any similar work was done as to T. 32 N. R. 7 E.

A. I don't know of any such procedure, I think not.

Q. I think as the easiest way to get at what I want, I will ask you, Mr. Compton, if you will compare this plat with the one which is in use in the local land office and see whether it shows the same facts as to that boundary line. Have you examined the plat that is in use for T. 32 N. R. 7 E. in the local U. S. land office.

A. I have.

Q. As far as that boundary line is concerned is there any difference between that and this plat.

A. None whatever.

Q. Did you ascertain if there was any other plat of that township there.

A. I didn't, I saw no other plat, however.

Q. So that as far as that office is concerned the land as shown on this plat is there subject to entry.

A. It is as far as I observed.

Q. As far as you know there were no other townships as to which the New Mexico survey was closed on the Carpenter line, aside from these.

A. Those are the only 2 townships that I know of closing on that line.

[fol. 872] Q. What can you tell us as to any overlapping surveys by Colorado and New Mexico surveys along that boundary line, if there were any.

A. They overlap each other in range 4 west, range 1 W. and 1 E. to my definite knowledge.

Q. Can you tell us what causes these overlaps in range 1 W. and 1 E.

A. Apparently they were caused by erroneous subdivisional closings.

Q. In 1 W. and 1 E. did the surveys purport to close on the Darling line.

A. They did, I believe, from both states.

Q. If there were overlaps, is it not obvious that they both did not close on the same line.

A. It is.

Q. How were those closings by the two states surveys respectively with regard to the actual Darling line as you found it.

A. Neither one of them were exactly on the Darling line as we found it but those closings from the New Mexico side were much

nearer the Darling line than those from the Colorado side, especially so in range 1 west.

Q. As I understand what you have already said, the closings of the Colorado surveys were at points some distance south of the Darling line.

A. They were.

Q. How far south.

A. I believe, I haven't it just definitely in mind, something like 17 chains.

Q. Will this report help you to state? being our exhibit No. 9.

A. I think these overlaps are summed up in this report somewhere, but I don't find them, except in R. 4 W., the Colorado subdivisions extended south of the Darling line, a position between 3 and 4 chains according to the findings of that preliminary report. In R. 4 W. at one point the Colorado closings are 11 chains 70 links south of the Carpenter position and 3 chains and 70 links south of the Darling line.

[fol. 873] Q. If I understand you your recollection is that in 1 W. they were somewhat further south of the Darling line.

A. Yes sir, they are in range 1 west, the overlap is about 20 chains; in 1 E. the overlap is about 17 chains according to the measurements made by me in that preliminary report.

Q. I believe you said the New Mexico closings were nearer to the Darling line than the Colorado closings.

A. Yes sir.

Q. How near were they, approximately, if you can remember.

A. Within a few links of the Darling positions as we found it in 1 E. Further east there was more error, however, and when we got over to the principle meridian between ranges 1 west and 1 east there was considerably greater discrepancy; that is, the New Mexico closings didn't follow so closely the Darling position, passing a little north of it.

Q. To what do you attribute the failure of the surveyors to make their closings on the actual Darling line.

A. I attribute it to the lack of definite locations when they made their surveys.

Q. May it have been due to the fact, if it is a fact, that the monuments and markings of the Darling line had disappeared or didn't exist.

A. Yes sir, I think that is the explanation of it mostly.

Q. Do you remember about when these Colorado and New Mexico surveys were made.

A. I don't, they are a matter of official record.

Q. They were made long before you had anything to do with that region.

A. They were, but both surveys are much in evidence on the ground.

Q. Did you find on the ground any evidence of the intersections with the Darling line in these surveys.

A. We found some closing corners from both sides.

Q. But did you find any evidence that any of these closing cor-
[fol. 874] ners were actually on the Darling line.

A. Only by projecting the Darling line east and west we found that some of these closing corners of the subdivision surv-ys from the New Mexico side were very close, within a few links; others more erratic. These measurements, I believe, are all a matter of record also. Several closing corners for the New Mexico subdivision were found, also some closing corners for the Colorado side, and upon these, together with the purported holdings based on them, we measured and reported these overlaps and conflicts.

Q. In which township is Ewell Canyon, the point where the Darling line goes through that canyon.

A. Mostly in range 1 E. The mouth or lower part of Ewell Canyon closes from R. 1 E. into 1 W. just at the Darling line. This canyon flows in a northwest direction.

Q. It is a fact then that the meridian crosses the Ewell canyon quite near where the Darling line ought to have crossed it.

A. Yes, they intersect right in the canyon, near the bottom of the canyon. The peculiar fact is noted, however, that the principle meridian from that point north through Colorado is about one mile west, being a job of one mile in the principle meridian.

Q. In the course of your work did you find any evidence that Darling had actually crossed the Ewell canyon with his line, and if so, at what point.

A. There was no evidence except that of the topographical feature; no signs of his crossing.

Q Have you ever had occasion to make any examination of the attempt at restoration and resurvey of the Darling line by Wm. C. Perkins in 1917.

A. I was present on the ground, a portion of the ground with Wm. C. Perkins in the re-establishment of this boundary line. I saw the line being measured through 1 E. and 1 W. and from a point beyond 1 E. also part of the time in R. 4 W. during the survey and
[fol. 875] restoration of this line.

Q. Is it a fact that Mr. Perkins in his attempt to restore the Darling line began about the 203 mile.

A. It is.

Q. And he attempted to re-establish the line from there running west.

A. Yes sir.

Q. Is it or not a fact that there is no continuous line recorded by Darling between his ast. mon. No. 6 and his monument No. 7.

A. Yes I believe there is a continuous line recorded by Darling, but there seems to have been some error in his work; there seems to have been a jog somewhere between his 6th and 7th ast. mon.

Q. Did you ever see a stone at or near the bank of the Navajo River which was marked Ast. Mon. No. 7, but which is a considerable distance south of the Mon. No. 7 as identified and restored by Mr. Perkins.

A. I did observe such a stone about 30 chains south of the identified and restored 7th monument, but the markings—I cannot state

offhand what the markings were, but I think they are recorded in my report.

Q. Do you know whether or not that stone that you say you remember having seen was on a prolongation to the westward of Darling's line as his record shows it, up to the east brink of Ewell canyon.

A. It was. This small stone which I have recorded here as being marked Sta. No. 7 was almost due west on the Darling line as projected west from his 203 mile corner, where the bearing tree now exists. This small stone, however, was covered up under the ground with some stones on top of it.

Q. That stone was something like 30 chains, I think you said, south of the monument No. 7 as identified by Mr. Johnson and later by Mr. Perkins in his restoration survey.

A. Yes sir, this stone was 30 chains and 24 links south, and 24 chains and 65 links west of the position for the Darling ast. mon. [fol. 876] No. 7, as anticipated in this report. There may have been a few links variation in the final monumentation of the line and setting of the 7th astronomical monument.

Q. As you recall, does Darling's field notes show any line connecting his monument No. 7 with the 206 mile corner which was the last one you could identify east of Ewell canyon.

A. I think his record shows a continuous surveyed line.

Q. Connecting with that monument No. 7, which is near, as you say, near the base of Cemetery Hill.

A. Yes sir, the true location for monument No. 7.

Q. Would you say that, notwithstanding the fact that a prolongation to the west of his line to the 206 mile corner is more than 30 chains south of his monument No. 7.

A. It is. His prolongation westward falls about 30 chains south of the monument No. 7.

Q. Then where is the connection between the 206 mile corner and his monument No. 7.

A. The Darling survey does not recognize or record any jog or any error in that line. The Darling survey runs first westward on a blank line to a point near his 7th ast. mon. His field notes record that he determined the true meridian and set a monument called the 7th; he then made an attempt to monument his line back to the 6th ast. mon. and perhaps only partially completed the job.

Q. In his notes he says he corrected the line back east to 191 mile corner. Wasn't that 191 mile corner on the west side of Ewell canyon.

A. No, I think that was considerably east of Ewell Canyon. That canyon was near the 212 mile and the 6th ast. mon. was the 182 mile.

Q. You say that the Ewell canyon is about what mile.

A. Near the 212 mile point.

Q. When he connected that line, as he states, back to the 191 mile can you find in his notes anything to indicate where or how he [fol. 877] crossed Ewell canyon. Have you ever looked for that.

A. I am not prepared to answer that. It is a matter of official record.

Q. This is a printed copy of his notes which I assume to be correct because my Colorado friends have offered it as a correct copy, and what I want is evidence in his record of how or where he crosses that canyon on his correction of the line running east from monument No. 7.

A. This says he ran west from No. 6 ast. mon. on the 182 mile, giving topography as he proceeds; at 80 chains he made his offset from the tangent and set the 183 mile corner; thence running west on his 184 mile, giving topography, at 80 chains he makes an offset from the tangent and sets a stone for the 184 mile; thence running *running* west on the 185 mile, giving topography, and at 80 chains makes the offset from the tangent and sets a stone for the 185 mile; thence runs west on the 186 mile, giving topography, and at 80 chains makes his offset from the tangent and sets a stone for the 186 mile; thence runs west on the 187 mile, giving topography, and at 80 chains makes his offset and sets a stone for the 187 mile; thence runs west on the 188 mile, giving topography and at 80 chains sets a corner and so on in the same way, giving topography and setting corners where possible.

Q. Until he appears to reach monument No. 7

A. No, up until the 191 mile where he sets a corner for the 191 mile.

Q. Doesn't it seem to be a continuous line

A. From the 191 mile he continues west on the 192 mile, giving topography, but at the 80 chain point he measures his distance north from the tangent and sets a temporary corner, the first one he has set up to this point. He then runs west on the 193 mile and sets a temporary corner at 80 chains; then the 194 mile he sets a temporary corner and keeps that up through the 195, 196, 197, 198, 199, 200, [fol. 878½] 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, and on the 212 mile at the 79 chain point he notes a canyon 1,000 ft deep, bearing northwest, which we take to be Ewell canyon; continuing at the 80 chain point he says there was a bluff impossible to set a corner, so he proceeds further and sets a temporary corner; on the 213 mile he sets a temporary corner; 214 mile says impossible to establish a corner; thence west on the 215 mile, giving topography, Navajo River, etc., and at 25 chains and 30 links on his 215 mile he says he makes his offset from his tangent up to this ast. mon. No. 7; witnesses compare his chain with the standard and find it correct. He says, thence I correct the line back east to the 191 mile; the 191 mile was the last permanent corner he had set. He therefore makes the statement I correct the line back east to the 191 mile corner, a distance of 23 miles, making a correction of 3.22 links per mile as though he had measured back the entire distance to the 191 mile, but we, as engineers on the ground, believe, and find evidence to bear it out, that Darling actually never did go further east than Ewell canyon and that there is a jog in his line at Ewell canyon; that he perhaps monumented his line all the way through as he went on his temporary line, if he monumented at all, or did it as he went through thinking he was right when he arrived at the 7th monument taking observation for the 37th parallel and found that he

was 30 chains and 35 links too far south. We believe that Darling thence proceeded east and corrected his line, set monuments north for 2 or 3 miles back to Ewell canyon but that he went no further.

Q. That's what Perkins' theory is and Johnson's too.

A. Yes sir, the story is he admitted it. I have found in my official position in the public land service in following other two surveyors that in running through that kind of country, the surveyor will sometimes or often monument his line as he goes, thinking he is very close to the true position and will avoid a return over the line. We presume and believe and have evidence to show that Darling [fol. 879] did this in the same way, monumenting his line as he went and then corrected back a few miles from the 7th monument, but not going the entire distance.

Q. So that his line, as far as he went with it, cast back from the monument No. 7, was something over 30 chains north of the line he had previously run coming from the east.

A. Yes, sir, that is correct.

Q. As far — you can discover, he never brought these two lines together.

A. No, he never did make the correction back as he should all the way. No doubt those points he marked temporary points from the 191 mile up to Ewell canyon were actually monumented by him and were never changed.

Q. I think I now have a better idea of the course Mr. Darling must have taken than I had before. In your report, Mr. Compton, which has been put in evidence as complainant's exhibit No. 9, in speaking of townships 32 N., R. 1 and 4 west and 1 east, you say that while the final township surveys are easily identified and appear to be rather faithfully executed except in the matter of erroneous closings on the old Darling state line, you then add "These erroneous closing being no doubt largely due to the very erratic and poorly marked Darling line". Are you still of the same opinion as to the character.

A. I am in this locality.

Q. I wouldn't suppose you would speak of any part but that with which you had actual contact.

A. No, I think the ground is thoroughly covered. I was speaking of these 3 particular townships. I would say, however, that the word erratic applies more truly to range 1 west and 1 east than it does to range 4 west, because there is no evidence of a corrected line or jog line in range 4 west, and absence of monuments may have, and perhaps would have been, a more faithful description of the [fol. 880] two places, because the closures have mislead the surveyors.

Q. R. 4 W. would be quite far away from Ewell canyon.

A. Yes, sir, 20 or 30 miles.

Q. As far as you have had occasion in your work to come in contact with the Carpenter line, what, if anything, can you say as to the character of that line.

By Mr. Ramsey: Defendant objects to the question and any answer thereto on the ground that same is irrelevant, incompetent and immaterial to any issues in this case.

A. My observation of the Carpenter line has been that it was well monumented, the monuments being iron posts much in evidence, that the alignment was good, that the measurement was not as good or as correct as should have been expected from this survey.

Q. Mr. Compton does anything else occur to you which would throw any light upon the controversy here, or be of any benefit to either side; if so, tell us about it.

A. I don't feel competent to offer any suggestions in a general way. So far as my observation of the two lines has been, excepting this jog near Edith, Colo., near the Ewell Canyon, the alignment in both surveys is fairly good; the measurement in neither one is not as perfect or quite up to the standard you would expect from the state line survey; the alignment of the Darling survey so far as I have observed it except the jog at Ewell canyon is good, and that of the Carpenter survey is perhaps excellent.

Cross-examination.

By Mr. Keyes:

Q. I understand, Mr. Compton, from what you have just stated, that excepting the jog in the Ewell Canyon, the alignment of the Darling survey is good. Is that correct.

A. Yes sir, not perfect, but what we would call good in that mountainous country, except the jog at Ewell Canyon.

Q. I also understand from your testimony that the measurements of the Carpenter survey are not as good as should have been expected.

[fol. 881] A. Yes, sir, that is correct.

Q. Does this survey along the line of the 37th par. in the vicinity of Ewell Canyon go through a rocky and mountainous country.

A. Not exactly; Ewell Canyon is a deep canyon, steep slopes, almost 1,000 feet deep, but not to- deep for timber to grow on most of the places. Numerous canyons in this country, it rains often. There are roliing mesa lands which are difficult to get up on but not so difficult to traverse after you get on top. They are heavily timbered.

Q. Is a part of the country along the 37th Par. between the 2 states high and mountainous with extreme variations of altitude?

A. Rather, yes sir.

Q. Does this add to the difficulty of surveys?

A. It adds to the labor but I should say it is no impediment to a correct survey, except in certain astronomical observations.

Q. In astronomical observations it would be an impediment, without doubt owing to the difference in the intensity of the earth's crust.

A. Owing to the swing of the pendulum or plumb line it offers a diffculty.

Q. You have testified concerning complainant's exhibit No. 10, which purports to show overlapping conflict along the Colorado and New Mexico state line in T. 32 N., R. 4 W. Is it not true that all of the Colorado closings at that point purport to close on the Darling survey and line.

A. I think the record so shows.

Q. Is it not also true that the New Mexico closings purport to close on the Darling line.

A. No, sir, the New Mexico closings purport to close on the Carpenter survey in range 4 west. I had the distinction of making that survey myself 15 years ago.

Q Since that survey, however, in T. 32 N., R. 4 W., there has been a re-survey and closings are now upon the Darling line.

[fol. 882] A. Yes, sir; I think that is right.

Q And the Carpenter line has been abandoned, so far as the general land office is concerned.

A. I think you are right.

Q. So at the present time the Darling line is the only line recognized as the boundary between Colorado and New Mexico by the general land office.

A. I cannot state for the general land office except in ranges where I have had work and have been instructed by them.

Q. Are you familiar with the letter of July 6, 1918, by the Commissioner of the General Land Office to the U. S. Surveyor General at Santa Fe, in which he states that notwithstanding the different locations of the monuments which were supposed to have been established upon the 37th Par. of latitude, this office is of the opinion that for all administrative purposes the line established by E. N. Darling in 1898, wherever its location can be identified beyond a reasonable doubt should be recognized as the boundary line. This view is now reaffirmed and the location of the boundary by Darling as re-established, in the current survey will accordingly control in all matters of public land surveys and administration for the following reasons, giving reasons.

A. I think I have read that letter.

Q. It is true, then, is it not, that the Darling line is now recognized in all matters of public surveys and administration as the boundary line between Colorado and New Mexico.

A. It seems to have been under that particular administration. I have noticed a change in the general land office from term to term part of the time recognizing the Carpenter line, and of late they are reocgnizing the Darling line.

Q. Is it true there was only one period in which the Carpenter line was at all recognized by the general land office and that was for a short period following the survey of Carpenter, and ending a [fol. 883] number of years ago.

A. I think so, yes sir.

Q. And wherever in the instance the Carpenter line was even temporarily recognized, it has now been abandoned and the Darling line has been re-established.

A. I understand so, that the general land office had no other legal line to administer affairs upon; in this statement it says it is recognized for administrative purposes.

Q. That's all purposes so far as surveys, location of patent and entries of public lands.

A. Yes, sir.

Q. As a matter of fact, under that ruling of the general land office, surveys for all patented lands were closed upon the Darling line.

A. Yes, sir.

Q. Is it not true that along the line of the 37th Par. between Colorado and New Mexico, there are probably scores, and perhaps hundreds of patents issued to lands.

A. Yes.

Q. And these would close upon the Darling line?

A. With some exceptions, perhaps.

Q. There might have been 2 or 3 instances during the interval of time that the Carpenter survey was recognized in 1 or 2 townships.

A. There are 2 or 3 instances where patents closed on the Carpenter line.

Q. But those would be the exceptions.

A. Yes, sir.

Q. You understand that the Darling line was made about 1868 and approved 1869, do you not.

A. I do.

Q. And that in 1876 when Colorado became a state, the boundary between the two states was what?

A. I presume it was the Darling line.

[fol. 884] Q. And that has continued without interruption for a period of about 52 years, with the exception indicated before, or from that time until the present date.

A. Yes with the exception noted for a brief period when the land office recognized the Carpenter line. There is this point I might mention, however, which comes under my observation in closing on this line, that in very few places doe- the closing corners actually fall on the Darling line. They were intended to fall on the Darling line but by close measurements they are found either one side or the other.

Q. Practically all of the closings in New Mexico purport to be on the Darling line.

A. Yes, except those for that period.

Q. Since then there has been the restoration.

A. The only restoration since that time that I am aware of has been in ranges 1 and 4 west and 1 east.

Q. The only ones that ever purported to close on the Carpenter line were those, were they not.

A. Yes sir, and 7 East.

Q. And consequently the restoration has been simply for those who formerly purported to have closed on the Carpenter line.

A. Yes sir.

Q. So that now the line recognized is the same line that was recognized in the beginning, the Darling line.

A. Yes I understand and from my association with the general land office for 9 years, there was never any official approval of the Carpenter line, therefore the general land office has no other policy and could have no other policy than to follow the line which had received legal approval or sanction.

Q. Which was the Darling line.

A. Yes sir.

Q. This was likewise the original line and survey of the boundary [fol. 885] between Colorado and New Mexico.

A. Yes it was the first.

Q. Complainant's have offered exhibit No. 19, same being fractional township 32 N., R. 4 W., purporting to close upon the Carpenter line. Is it true that since the survey of this township, being complainant's exhibit 19 introduced by them, there has been a resurvey and restoration of the Darling line and abandonment of the Carpenter line.

By Mr. Clancy: That's merely repetition; Mr. Compton has already said that was so.

A. Yes by the general land office.

Q. This means then, that the survey T. 32 N., R. 4 W., which is complainant's exhibit 19 has been officially rejected by the general land office and that there has been substituted in place of it the plat showing the Darling line as the boundary between the 2 states.

A. I think that is right.

By Mr. Ramsey:

Q. Mr. Compton, the locality about which you have testified, as I understand it, was between Ast. Mon. 6 and 8, was it now.

A. Yes a greater portion of that distance.

Q. Your examination was confined to this particular locality.

A. Well, yes this particular examination was confined to this locality. I have spoken of other ranges where——

Q. Of course, at the time you made your examination, that was many years after the Darling survey was made, was it not.

A. Yes, about 45 years, I believe, or over.

Q. As to what was originally done by Darling in that locality you had to reach your conclusions from the evidence upon the ground at that time, did you not.

A. Yes sir.

Q. What corners and monuments may have been originally established by Darling and had been obliterated or destroyed or missing. [fol. 886] of course you are not able to state.

A. Well, yes, we found a few corners only, we found the greater portion missing.

Q. Did you find any evidences in that particular locality of surveys or evidences of work done by private or individual surveyors.

A. Yes, we did.

Q. What did you find in that particular

A. We found, for instance, that Engineer Burwell had retraced a portion of the Darling line from the 5 Ast. Mon. eastward and had set two monuments which are still in existence there and which we found were on the Darling position.

Q. Then whatever may have appeared upon the ground or what evidence there may have been of the Darling line as originally established there was enough appearing at the time that you made your examination and also at the time of the examinations made by other government surveyors or officials, to make it possible to re-establish and re-locate and restore the Darling line, was there not.

A. There was, except that in one little breach or gap near Ewell Canyon. It is a question of, you might say, theoretical location, bringing two points together. We have positive evidence of his line and history of it in the way of topography and corners from the 203 mile corner over to Ewell canyon; there we lose the trail across the canyon; then from the 7 ast. mon. going back eastward there are many topographic features which are conclusive to the engineer for that 2 or 3 miles between those 2 points, there is an old trail which we connected. There is a little room for speculation there for a different method of re-establishing, but of no particular contention perhaps.

Q. I believe you have stated that even where you couldn't find a corner or monument, that the running of the survey made by Darling was described by giving topographic conditions.

A. This was true in many places; it is a fact, however, that for con- [fol. 887] siderable distances west of the 7th ast. mon. we didn't rely entirely upon topographic features; in fact we connected the 7th ast. mon. with the 8th by true curve, and this fixation was corroborated, I would say, perhaps, referred to in places by the topographic features; not corroborated precisely, but roughly, and from the standpoint and practice of the general land office, definite corners on straight lines are connected by straight lines or curve lines, and that is what was done there.

Q. There was sufficient evidence obtained by which Darling's 7th ast. mon. was located, was there not.

A. Yes there was conclusive evidence to engineers that this 7th monument is fixed within a very narrow limit, even less than a chain no doubt.

Q. Then isn't it a fact that as a matter of practice, monuments control over courses and distances.

A. Yes with the general land office and I believe with the law.

Q. Then it would be possible to run the line from his ast. mon. No. 7 back to the last established known corner, would it not.

A. Yes it would be logical and possible; if no other evidences appeared it would be logical.

Q. There were many more difficulties to encounter in making a survey of that character in 1868 than there were in 1902, or would be at the present time, would there not.

A. Yes, without doubt.

Q. Are you able to state, Mr. Compton about when it was that the closing in range 4 which was made on the Carpenter line was afterwards changed to close on the Darling line.

A. It has been in process of change since this examination in 1916. It has been under consideration, but I believe it was approved just recently by the general land office.

Q. Is it a fact, or do you know whether or not Carpenter in making his survey destroyed and obliterated a number of the corners and [fol. 888] monuments of the Darling line.

A. It is recorded by him in his official field notes that he did destroy all the corners he could find. However, he didn't succeed in getting all of them.

Q. At the time you made your examination in that particular locality you mentioned, was after Carpenter had made his survey and had destroyed these evidences of the Darling line.

A. Yes sir.

By Mr. Clancy:

Q. I think one answer which you made to a question by the Attorney General of Colorado might possibly be misleading. You made a survey of T. 32 N., R. 7 E. in 1907, in which, under instructions as you have already stated, the closing of the survey was on the Carpenter line.

A. I did, yes sir.

Q. Has there ever been any re-survey of that township, or restoration as the Attorney General has stated, of the Darling line.

A. Not to my knowledge. There had been nothing done when I quit my post in April of this year; whether or not this has been withdrawn from entry in this township along the state line or not, I don't know. The records of the land office will show that.

By Mr. Keyes:

Q. But you do know in any event from official communications that in all matters of public survey the Darling line is now recognized as the boundary between the states.

A. By the general land office, it is. I would add there, if you please, this statement. I cannot speak for the individual opinion or opinions of the general land office as to whether the Darling line is the correct line or not, but I do know that is the one line they recognize or can recognize as having legal status.

Witness excused.

[fol. 889] STIPULATION RE EXHIBIT

By Mr. Keyes: It is hereby stipulated by the parties hereto, that a certified statement of facts by the Surveyor General of New Mexico of an official of his office, as to section and township surveys, or by the Register or Receiver of the General Land Office, at Santa Fe

New Mexico, as to public land entries or patents in the vicinity of the 37th parallel, north latitude, between 103 and 109 meridian, may be admitted in evidence without further authentication as exhibits of defendant.

UNITED STATES OF AMERICA,
State of New Mexico,
County of Santa Fe:

EXAMINER'S CERTIFICATE

I, Ethel F. Stevenson, duly appointed examiner in the above cause, do hereby certify that the foregoing 59 pages of testimony, constitute a true and correct transcript of the notes taken by me in said cause.

Ethel F. Stevenson.

[fol. 890] PLAINTIFF'S EXHIBIT No. 11

F207.

1,025,565. "E.". JAD.
M. E. 168,994.

Department of the Interior. E. E. D. B.
General Land Office,
J. A. D. Washington, February 8, 1922.

I hereby certify that the annexed photographic copy of the field notes of the examination of surveys Colorado-New Mexico Boundary line, between the 274th and 287th mile corners, east boundary Southern Ute Indian Reservation by Frank M. Johnson, Special Agent, in 1899, is a true and literal exemplification of the official record of said examination on file in this office.

In testimony whereof I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

Geo. R. Wickham, Assistant Commissioner of the General Land Office. (Seal of United States General Land Office.)

[fol. 891] Report Examined. In Office Letter Mar. 19, 1900.
A. W. B.

Rec'd with letter from Frank M. Johnson Exam' dated March 2, 1900. 29068/1900.

4—679a

Field Notes of the Examination of Surveys Colorado-New Mexico B'd'y Line Bet. the 274th and 287th Mile Cor. East B'd'y Southern Ute Indian Reservation. Executed by E. N. Darling, 1868, and Tyler & Medary, 1881, U. S. Deputy Surveyor, Under Contract No. —, dated —— —, 189-, as Examined by Frank M. Johnson, Special Agent.

Examination State B'd'y commenced Nov. 2d & completed Nov. 7, 1899.

Examination E. B'd'y Ute Res. commenced Nov. 23d & completed Nov. 24, 1899.

[fol. 892] Names and Duties of Assistants

C. R. Caudle, Chainman.
V. S. Barber, Chainman.
W. A. Smith, Flagman.

Certificate

We hereby certify that we assisted Frank M. Johnson, Special Agent for the examination of surveys, in examining surveys in Colo. & N. M., under contract No. —, as follows: Colo.-N. M. Bdy. Line, E. Bdy. S. V. & R., and that said examination has been in all respects, to the best of our knowledge and belief, well and faithfully made, according to the instructions furnished by the Commissioner of the General Land Office.

C. R. Caudle, Chainman. V. S. Barber, Chainman. W. A. Smith, Flagman.

Subscribed and sworn to before me this 24th day of November, 189-. Frank M. Johnson, Exam. Surveys.

[fol. 893] Examination Colo.-New Mex. Line Bet. 274 & 284 M. Cs.

The examination of the Colo.-New Mex. boundary line between the 274th and 287 mile corners, began Nov. 2d, 1899, and executed with a Young & Sons light mountain transit No. 6556. The horizontal limb is provided with two double venniers placed opposite to each other and reading to single minutes of arc, which is also the least count of the venniers of the latitude and declination arcs. I examine adjustments of the instrument and correct small errors in level and collimation then in order to test the solar apparatus by comparing its indications resulting from solar observations made during a. m. and p. m. hours, with a true meridian, determined by observations on Polaris. I proceed as follows:

Nov. 1st at 3.05 p. m. l. m. t. I set off 37° W. on lat. arc and 14° 35′ on dec'l arc and determine a true meridian with the solar, marking a point in this meridian by a tack driven in a plug 5 chs. N. of my station on the S. B'd'y of Colo.

Nov. 1st, '99.

Nov. 2d 1899 at 4.27 a. m. l. m. t. I observe polaris at western elongation in accordance with the manual of instructions.

At 8.20 a. m. l. m. t. I plug off the azimuth of polaris 1° 23′ to the east and mark a point on the meridian thus established by a tack on the plug 5 chs. N. of my station on the S. b'd'y of Colo.

I now set off 37° N. on lat. arc and on dec'l arc and de-
[fol. 894] termine a true meridian with the solar, marking a point on this meridian on the plug already set 5 chs. N. of my station.

The solar apparatus by a. m. & p. m. observations defines positions for true meridians about 3″ and 5″ west and east respectively of the meridian established by polaris observations.

The mag. bearing is 13° 31′ E.

I locate a post (evidently cedar) set in mound of stone, marked "C" on N. "N. M." on south, "1868" on east and "284" on west post is 5 in. sq. & projects 3 ft. above ground. The notes of E. N. Darling record a marked stone beneath post. I dig 3½ ft. beneath the surface but can find no stone. I assume this to be the 284th mile corner and run east. Over rolling country, scattering tim.

4.00 Ascend con.
11.50 Summit of spur of ridge slopes to south.
15.00 Base of spur N. & S.
21.00 Irrigation ditch S. 30° W.
21.40 Wire fence N. & S. Ent. field.
52.40 Leave field N. & S. Ent. brush.
51.40 Right bank of Rio La Plata 30 lks. wide, course S. Leave brush.
60.60 Wire fence N. & S.
60.80 Road N. & S.
73.00 Ditch S. 20° W.
75.25 Ravine S. W.
80.13 A stone in a small mound of rocks, (not marked) bears 5 lks. S. of line. I cannot identify this as the 283 mile corner.

I continue east over holling country; no timber.

9.60 Arroya 10 ft. deep S. 30° W.
23.30 Road N. E. & S. W.
37.10 Ent. scat. timber. Ascend.

53.00 Base of sandstone ledge N. E. & S. W.
54.40 Summit of bluff.
80.72 A sandstone on steep slide to north 30 x 14 x 4 ins. marked
[fol. 895] "68"—"N. M." and "C" on 3 faces; the face scaled off. I find no other evidence. This is undoubtedly the 282 M. C. stone.
I locate a 1/16 cor. established by Tyler and Medary in 1873, a cedar 14 in. diam. marked 1/16 on west; blazed on 4 sides. A growth of 17 rings overlap blaze. I commence at this tree corner and run N. on true line.
9.10 Stone just described as 282 M. C. bears west 63 lks.
I continue my line east.

NOTE.—As no items of topography are noted on this the 281st mile, and as it is the purpose of this examination to determine which is the true b'd'y line, as surveyed by E. N. Darling in 1868, I will simply consider the points described in the original field notes.

80.03 A s. s. 20 x 10 x 4 on surface of ground, and a few stones forming a loose mound.
The s. s. marked, very indistinctly, "N. M." "568" and "281" on three faces.
I search for marked stone 3½ ft. underground but find no trace of it.
A standstone bluff bears N. 35° 10' E.
A sandstone bluff bears N. 30° E.
A peak in the La Plata mts. bears N. 5 E. as described in the original survey.
Although I believe this to be the 281 M. C. I do not consider it to be sufficiently identified. I therefore continue East.
7.00 Dry bed of a small creek 12 ft. banks, course S. E.
15.50 Arroya 20 lks. wd. course S. 30° E.
31.00 Ascend cinder buttes 250 ft. End Etat. tim.
31.00 Top. Enft. high rolling country.
77.80 Drain course South.

[fol. 896] A coal bank about 25 ft. thick is exposed here on the west bank of the drain. Ascend.

80.16 A standstone about 4½ ft. x 3 ft. x 1½ ft. above ground, in place, marked with a "×" on top, "C" on north "N. M." on south, "1868" on west and "280 M." on East; bears S. 8 lks
This is a standstone in place agreeing in every particular with the deputy's description with the exception of the "×" marked on top. The topography of this mile I find agrees very closely with the original notes. I consider this 280 M. C. fully identified.

Nov. 2d, 1899.

Nov. 3, 1899 at 8 a. m. I set off 37° N. lat. arc and 15° 10′ S. on dec'l arc and determine a true meridian with the solar at the point partially identified as the 284 M. C. Nov. 2d '99. Thence I run West on the 284th mile over rolling & broken country. Descend gradually.

3.00 Base of hill N. W. & S. E.
10.50 Dry arroya S. E. Ascend grad.
16.00 Ascend 70 ft. hill N. & S. Ent. cedar and pinon timber.
19.60 Small ravine N. E.
22.70 Summit of ridge N. & S.
23.00 Descend abruptly N. & S.
29.80 Dr. N. E.
33.50 Ridge N. 20′ E. & S. 20′ W.
35.40 Dr. N. 20° E.
37.60 Ridge N. & S.
40.50 Dr. N. E.

[fol. 897]

42.50 Top of ascent, Thence over mesa.
48.55 Road W. & S. E.
59.00 Sandstone ledge descend 30 ft. N. W. & S. E.
60.00 Dr. S. E.
80.00 Set stake for temp. 285 mile corner I find no evidence whatever of cor. rock, mound or pits.

The only two objects, or rather items of topography, noted on this line, in the original notes agree with the results of my work.

I continue West from temp. 285 M. C. Over rough mountainous country.

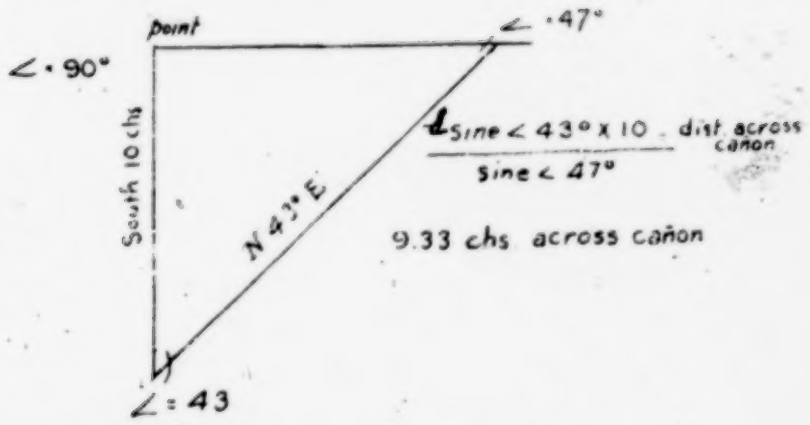
39.20 Dr. S. E. cut in solid sandstone.
39.60 Large rock hill 2½ chs. wide.
47.00 Ravine 50 lks. deep. S. E. 40 lks. wd.
Ascend.
58.00 Head of canon S. E.
62.70 Bottom of canon Ascend.
68.50 Descend sandstone ledge 38 ft.
76.00 Bottom of canon 100 ft. deep S. 60° E. ascend.
79.20 Sandstone ledge 30 ft. N. W. & S. E. lie. canon.
80.00 I find no evidence whatever of marked stone, or mound of 286 M. C.

I continue west on 286 mile.

32.00 Deep canon, about 200 ft. deep bears S. E.

This canon being too rough and precipitous to chain. I set flag on west side of canon on line, and also flag at instrument on E. side of canon. From flag on west side I run off base 10 chs. south to a point from which the flag on the east side bears W. 43° E.

[fol. 898] Thus the triangle.



41.33 West bank of canon.
80.00 I find no trace whatever of corner. The topography of the 285th and 286th miles, I find agrees generally with the records of the survey of 1868; but I find no trace whatever of the line neither blazes or corners.
Set temp. stake.

Nov. 3rd, 1899.

Nov. 4th, 1899 I commence at the theoretical location of the 284th mile corner, and run N.

13.04 The theoretical distance reported by Cunningham & Warner to the Colo.-N. M. b'd'y line.
I find no trace of Cunningham & Warner's closing corner or any evidence of the 284 mile corner.
I run east along the alleged Colo.-N. M. b'd'y line from this theoretical location of the 284 M. C. as closed on by C. & W.
2.00 Descend N. & S.
3.50 Base mesa.
9.00 Dr. S. E.
20.70 Irrigation ditch S. 30° E.
45.00 Right bank Rio La Plata stoney bottom water in holes. S. 60° E.
62.30 La Plata & Durango Road N. & S.
63.30 Arroya south.
70.00 Ascend N. & S.
79.40 Summit of hill N. & S.
80.00 I make search for 283 M. C. and C. & W. C. C. but find no
[fol. 899] evidence or trace of corners.
I continue east.
3.20 but find, no trace of any description, of a line. I conclude that this is not the b'd'y line.

Nov. 4th, 1899.

Nov. 5th, 1899, I find and identify the corner of secs. 10, 11, 14 & 15 T. 32 N. R. 13 W. as surveyed by Tyler & Medary in 1881.
I establish a true meridian with the solar at this corner.
Thence N. 89° 21′ W. bet. secs. 10 & 15.

20.00 A stone 8 x 8 x 5 2 lks S. of line.
40.02 A stone 7 x 8 x 4 3 lks. S. of line.
42.50 Rio La Plata corner S. about 30 lks. wide.
60.00 Find no. 1/16 cor.
77.00 Base of mesa.
79.00 Summit of mesa 200 ft. high.
84.04 A (*sandstone*) cedar tree 12 ins. diam. blazed on 4 sides bears 6 lks S. A pinion 12 in. diam. bears S. 45° W., 50 lks dist. from cedar for corner of secs. 9, 10, 15 & 16.
N. bet. secs. 9 & 10.
1.00 Descend from mesa E. & W.
3.75 Ravine E.
9.76 Road E. & W.
29.12 The post previously described and partially identified as the 284 M. C. bears west 255 lks.
I find no trace of C. C. here or at 29.76 chs., the distance reported by Tyler — Medary as the closing distance on the State line.
I continue W.
43.00 I find no evidence whatever of Cunningham & Warner's
[fol. 900] C. C. or the alleged 284 M. C. reported 1 ch. west.
I return to corner of secs. 10, 11, 14 & 15 T. 32 N., R., 13 W. & run North bet. secs. 10 & 15.
1.20 Dr. west Ascend.
7.00 Dim. road N. W. & S. E.
18.00 Top of mesa.
20.00 Find no stone for 1/16 cor. Descend E. & W.
22.50 Base of mesa.
29.27 The stone in mound of stones previously described and partially identified as the 283 mile cor. bears S. 80° W. 2 chs. dist. I find no C. C.
I continue N.
42.50 I find no trace of Warner & Cunningham's C. C. or of the alleged 283 mile corner 2 chs. west.

Nov. 5th, '99.

Nov. 6th, 1899 at the 280th mile corner identified on Nov. 4th, I run E.

NOTE.—U. S. Deputy Surveyor Cecil A. Deane has retraced & reestablished a portion of the S. B'd'y of Colo. setting ½ M. corners remarking the origiaal mile corner stones in some cases, marking bearing tree and estab'g pits, consequently it is impossible in some cases to identify the line from old corner descriptions.
E. from 280 mile cor.

Ascend through timber.
2.60 Top of mesa N. & S. Thence over mesa.
12.50 Descend N. & S.
19.00 Dr. S. E. base hill ascend.
25.00 Summit hill N. & S.
32.50 Ravine S. E
38.50 Descend abruptly into dry creek bed S. E.
40.00 A sandstone 24 x 7 x 3. Set in mound of rock marked
[fol. 901] "¼" on north and mound of rock 5 lks. N., 3½ ft. base x 2 ft. high, stone bears south 74 lks. dist. from which a Pinon 14 ins. diam. bears S. 45° E. 40 lks. dist.
45.30 Dry bed of creek course S. E. 10 chs. wd.
49.00 Bend of creek east to south.
50.20 Foot of rocky bluff 75 ft. high N. & S.
52.00 Top of bluff.
64.20 McDemott Arroya 2 chs. wd. south.
68.00 Perpendicular bank of old arroya bears S. 15° W.
72.00 Top of spur to north.
80.42 A sandstone 20 x 8 x 7 ins. bears 2 5lks. south markings very dim "N. M."—"C," and "279" and "48" on opposite faces. Stone lays on top of loose mound of earth. I fail to find marked stone deposit under this rock. This is evidently the 279th corner stone but can not identify its true position.
I set up over this stone and run East, from 279 M. stone
.16 A sandstone 8 x 4 x 10 ins. above ground set & marked for a C. C. by C. A. Deane, D. S in the survey of cont. #811 Colo.
As it is the purpose of this examination to locate the survey of E. N. Darling in 1868; I will confine my inspection to such survey.
3.00 Ascend rocky hill.
6.40 Summit hill.
31.90 Dr. N.
38.20 A large sandstone boulder on summit ridge stone. About 12 ft. high x 30 x 20 ft.
40.12 A sandstone 24 x 18 x 7 ins. set on bed rock, in mound of rocks marked ¼ on north from which:—
A pinion 10 ins. diam. bears N. 11° W. 54 chs. dist. marked ¼ S. B. T.
[fol. 902] Mound of stone 2 ft. base and 1½ ft. high, north of corner.
This corner is 5 lks. S. of line.
44.00 Leaves timber N. E. & S. W.
61.00 Ent. timber N. & S.
63.00 Leave timber N. & S.
69.60 Arroya course N.
73.00 Ent. timber N. & S.
75.45 Top of ridge N. & S. live timber.
79.10 Corner of wire fence bears 11 lks N.

Fence bears E. & S.

79.10 Corner of wire fence bears 11 lks. N.

80.62 A cedar post 8 ins. diam. set in mound of earth, 15 ins. of post projecting above mound, bears N. 11 lks. post marked recently "Colo." on N. old mark "N. M." on south. Two pits on line, 8 lks. from post 20 x 20 x 8 ins.
Cedar 8 ins. diam. bears S. 19° 6' E. 46 lks. dist. marked "B. T." "N. M.
The original notes describe a sandstone set for the 278 M. C. and a marked stone deposited 3½ ft. under ground.. I find neither stone corner or deposit.
The large boulder noted by E. N. Darling at 41.80 chs. from the 278 mile corner, I check very closely in alinement and measurement. As this is the only large rock in this vicinity. I think beyond doubt this is the boulder referred to.
I set my instrument over the post marked Colo. N. M. and run East on 278 mile. Over prairie.

.44 C. C. set by C. A. Deane D. S. in survey of cont. #811 Colo.

4.40 Dr. N. W.

18.45 1/16 C. C. (C. A. Deane.)

40.53 A sandstone 4 x 8 x 6 ins. above ground marked ¼ in. on north Md. & Pits.

43.70 Pruitt irrigation ditch S. 30° W.

[fol. 903] Ectl. seat timber N. 30° E. & S. W.

58.24 Sandstone 24 x 12 x 3 marked 1/16 C. C. bears S. 5 lks.

61.80 Top of ridge bears N. E. & S. W.

70.00 Ent. timber N. & S.

80.63 A cedar post 4 ft. high 7 in. diam. set in mound of dirt 15. in. high 4 ft. base pits 24 x 30 x 10 in. on line. Post has very old marks, "1868" in west "C." on north and new marks, "N. M." on south & "277 M." on east from which a pine 8 in. (recently marked) bears S. 46° 45' E., 42 chs. dist. marked "B. T. M. N."
A cedar 12 ins. diam. bears N. 51° 5' E. 47 lks. dist. marked "B. T. Colo."
I find no trace of charcoal deposit, but I believe this to be the original 277 mile corner.

Nov. 6th. 1899.

Nov. 7th, 1899, at 8 a. m. I set off 37° N. on lat. arc and on dec'l arc and determine a true meridian with the solar at the 277 M. corner identified Nov. 6th.
Thence I run E.

.22 Sandstone 14 x 5 x 10 ins. above ground marked (C. A. Deane) for C. C. of secs. 19 & 20.

18.00 Leave timber N. W. & S. E.

33.00 Ent. timbers N. & S.

40.24 Sandstone 8 x 7 x 5 ins. above ground bears N. 5 chs. marked "¼" in north.
Mound & pits.
A cedar 12 ins. bears N. 38° E. 91 chs. dist. marked ¼ S. B. T.
51.00 Top sandy knoll.
70.00 Leave timber N. W. & S. E.
79.46 C. C. bet. secs. 20 & 21 (C. A. Deane).
80.07 A cedar post 7 in. diam. 4½ ft. high set in mound of earth
[fol. 904] 3½ x 1½ ft. No old marks. Recently marked "276" on E., "N. M." on south, "1868" west and "C." on north face. Pits 24 x 30 x 10 ins. on line. No trees near corner. The post is undoubtedly the original one but if it ever contained any marks, they have been destroyed.
Markings, mound & pits are the work of C. A. Deane D. S.
From this post marked "276" I run East. Rolling country no timber.
28.00 Ent. seat timber & sage N. & S.
34.00 Leave timber N. & S.
40.09 Sandstone 6 x 8 x 12 above ground, bears *bears* N. 5 lks. marked ¼ on north, pits 18 x 18 x 12 ins. Established west of stone.
Mound stone 3½ x 2½ north of stone.
70.00 Ent. seat. timber N. W. & S. E.
74.50 Ent. dense " " "
78.85 Dr. S. W.
79.98 Quartzite 14 x 9 x 2 ins. bears N. 31 lks. dist. marked C. C. on north and "111" on E. & W. face from which a marked T. 32 R. 11 W. Sec. 21 B. T.
pinion 7 ins. diam. bears N. 53° 10′ W., 16 lks. dist.
A cedar 10 ins. diam. bears N. 17° 20′ E. 7 lks. dist. marked T. 32 N. R. 11 W. Sec. 22 B. T.
81.54 A cedar tree 10 ins. diam. (very old) blazed on 4 sides, marked "C." on north "275 M." on east "N. M." on south and "1868" on west. These marks are very old. Tree cor. bears N. 32 lks.
By cutting into one of the old blazes I find 29 distinct rings which would indicate the age of the blaze, 29 yrs. This is undoubtedly the original tree corner described as the 275 M. C.
From this corner——
[fol. 905] A cedar (recently marked) 10 inches bears N. 42° 15′ E. 24 lks. dist. marked "B. T." "Colo." and a cedar 10 ins. diam. bears S. 42° 15′ W. 27 lks. dist. marked "B. T." "N. M."
These trees have been blazed and marked by "C. A. Deane D. S."

This is undoubtedly the Colo.-New Mexico bd'y line, but I have not yet found a marked stone or charcoal deposit, described in the original notes as deposited at the mile corners. I therefore run East to the 274 mile corner.
I find an old cedar post marked "C." "N. M." "1868" & "274" on north, south, west, & east. I find no stone deposit.
A peak of La Plata Mts. bears N. 8° W.
A peak of Las Annum Mts. bears N. 60° E.
I believe this to be the 274 mile corner.

Exam. E. B'dy Ute Reservation, T. 32 N. N. M. P. M.

Nov. 23d, 1899, at 8.30 a. m, l. n. t. I set off 37° N. on lat. arc and 20° 245 on dec'l arc and determine a true meridian with the solar, at this temp. 287 mile corner set Nov. 3d, 1899, I find no trace of the C. C. bet. Rgs. 13 & 14 west reported 210 lks. East of the 287 mile corner.
I measure east 210 lks. from temp. 287 mile corner and run north.

50.20 I make careful search for 1/16, ¼ & mile corners but find absolutely no trace of line or corners.

[fol. 906] As no topography was noted on this line and as tree corners were inwardly new, the blazes on which, if there ever were any, are probably overgrown. I consider there is little chance of locating the line from the south. I therefore locate and identify the S. C. on the 8th correction line north bet. ranges 13 & 14 west.

Nov. 23d. 1899.

From this corner I retrace the 8th cor. line East identifying 1/16, ¼, and mile corners to S. C. secs. 33 & 34. From this corner I measure off 3 chs. east, and make search for the C. C. of the line bet. ranges 13 & 14 west T. 32 N. described as a "Pinon tree 9 ins diam. marked C. C. on south for closing corner."
I find no trace of tree.
From point 3 chs. East of S. C. secs. 33 & 34 I run South.

10.30 No trace of 3d & 4th mile corner bet. secs. 1 & 2.
Set stake from which I run and measure South. Over rough country.
9.80 Dr. in ravine N. 30° E. Ascend.
20.00 No trace of 1/16 cor.
40.00 No trace of ¼ cor.
50.00 Descend into canon E. & W.
60.00 No trace of 1/16 cor.
60.10 Descend sandstone ledge E. & W. 30 ft.
64.20 Base of canon, drain East. Ascend.
66.60 Sandstone ledge 30 ft. E. & W.

80.00 No trace whatever of corner.
The canon noted in the original survey at 13 chs. N. on 2d mile bet. secs. 1 & 6 or 47.30 chs. S. of 8th cor. line does not exist. This point would fall on the top of a high mesa about 27 chs. from the nearest canon.
Set temp. corner at 80.00.

[fol. 907] Continue South.
20.00 No trace of 1/16 cor.
40.00 No trace of ¼ cor.
I find not the slightest trace of a line. The topography does not agree in any particular with the original notes. The deputy claims that pinon & cedar trees were used as corners. If such is the case I do not believe that these trees were blazed. I don't believe that this line between ranges 13 & 14 west T. 32 N. has ever been run in this field.
Nov. 24th, 1899.

[fol. 908] General Description Colo.-N. M. Bdy. Line Bet. 274 & 287 M. C., and East Bdy. Ute Reservation, T. 32 N.

Acting under instructions, contained in office letter "E." June 22, 1899, to determine the location of the state boundary in T. 32 N. R. 13 W. N. M. P. M., and vicinity and the East bdy. of the Southern Ute Indian Reservation in T. 32 N., I have retraced 13 miles of the line closed on by Tyler & Medary in their survey of T. 32 N., R. 13 West, five miles of the closing line claimed by Cunningham and Warner as the South bdy. of Colo. subdivisional lines in T. 32 N. R. 13 W. and over two miles of the west b'd'y of said T. P., which is the east b'd'y of the Southern Ute Indian Reservation. In township 32 N. R. 13 West I find only one set of corners. I believe the surveys by Tyler and Medary and Cunningham and Warner are identical, with the exception of the closing line, which should be the Colo.-N. M. b'd'y line.

I find nothing whatever to warrant the claims of Cunningham and Warner, that the Colo.-N. M. b'd'y line is located from 42 to 44 chs. north of the first section corners south, surveyed by them in 1887.

The line closed on by Tyler and Medary, although I fail to fully identify in Range 13 W., I find by continuing east that the topography and corner descriptions agree very closely with the original notes. The tree corner, 275th, mile I consider fully identified. [fol. 909] The large boulders on the 279th mile cannot be mistaken, as it is the only stone in that vicinity or within a radius of 5 miles that would answer the description and meet the conditions described in the notes of E. M. Darling's survey.

I found no corners on the west b'd'y of township 32 N. R. 13 W. nor does the topography of this line agree in any particular with the original notes of survey by Tyler & Medary in 1881. I do not believe survey of this line was executed as reported.

Frank M. Johnson, U. S. Examiner of Surveys.

[fol. 910] Oath of Special Agent for the Examination of Surveys

I, Frank M. Johnson, Special Agent for the examination of surveys, do solemnly swear that, in pursuance of instructions received from the Commissioner of the General Land Office, bearing date the 22d day of June, 1899, and the — day of —, 189-, I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by said Commissioner, examined all those parts or portions of Colo.-N. Mex. Bdy. Line bet. the 274th m. & the 287th mile corners; E. Bdy. Ute Reservation, W. M. Meridian, in the Bdy. Line Colo. & New Mexico surveyed by E. N. Darling in 1868, under contract No. —, dated —, —, 189-, as are represented in the foregoing field notes as having been examined by me; and I do further solemnly swear that the foregoing are the true field notes of such examination.

Frank M. Johnson, Special Agent.

DISTRICT OF COLUMBIA, ss:

Subscribed and sworn to before me this 28th day of February, 1900.

Wm. H. De Lacy, Notary Public.

[fol. 911] PLAINTIFF'S EXHIBIT No. 21

4—207

814649. "E." M. L. 400,159.

Department of the Interior,
General Land Office,
Washington, D. C., December 13, 1918.

J. A. D.

I hereby certify that the annexed photographic copy of the field notes of the survey of the Colorado-New Mexico boundary line by Frank M. Johnson, Examiner of Surveys, in 1900 and 1901, is a true and literal exemplification of the official field notes of examination which are on file in this office.

In testimony whereof I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

J. M. McPhaul, Acting Assistant Commissioner of the General Land Office.

[SEAL.]

12-12: JTA.

[fol. 912] Rec'd with letter from Frank M. Johnson, Exr., dated March 12, 1902. 42257/1902.

4—679a

Field-notes of the Examination of Surveys in the Colorado-New Mexico Bdy. Line Executed by ——— ———, U. S. Deputy Surveyor, under Contract No. —, dated ——— —, 190-, as Examined by Frank M. Johnson, Exam. of Surveys.

Examination commenced Aug. 3d, 1900.
Examination completed Sept. 12th, 1901.

[fol. 913] Names and Duties of Assistants

Irwin Stiles, Chainman.
Ora Hayes, Chainman.

Certificate

We hereby certify that we assisted Frank M. Johnson-special agent for the examination of surveys, in examining surveys for ——, under contract No. —, as follows: Colorado-New Mexico Bdy. Line; that said examination has been, in all respects, to the best of our knowledge and belief, well and faithfully made, according to the instructions furnished by the commissioner of the General Land Office.

Ora Hayes, Chainman. Irwin Stiles, Chainman.

Subscribed and sworn to before me this 30th day of Sept. 1901. Frank M. Johnson, Examiner of Surveys.

[fol. 914] Examination of the Colorado, New Mex., Bdry. Line.

The examination survey of the Colorado, New Mex. Bdry. line between Ast. mons. Nos. 6 and 8, was made with Young and Son's transit Nos. 6556 and 6860, provided with Smith solar attachments.

The solar apparatus was frequently tested by comparing the indications resulting from solar observations with true meridians determined by observations on Polaris.

All measurements are based on a 66 ft. Chesterman steel tape which is used as a standard to test the 100 lk. chain.

[fol. 915] Astronomical Monument No. 6, is situated in the canon of the Rio Los Pinos, on the west of the river, and about ¾ of a mile North of the Toltec Gorge.

The monument is a lava shaft. 18 x 18 x 8 ins., above mound of rock 2 ft. high, 5 ft. base, marked Colorado, Astrom. Mon. 6 on North, 1868 on East, New Mexico on S., and 37° N. L., on west.

Mound of stone scattered around base of monument.

The bearings to the several natural objects are practically correct as noted in the original field notes, and are as follows:

Ledge of rock bears N. 70° W., 5 chns. dist.
Ledge of rock brs. N. 56° 40' W.
Ledge of rock on mountain side brs. N. 15° 30' W.
Ledge of rock brs. N. 12° 15' E.
Mound on ledge of rock brs. N. 43° 5' W.

Peak on ledge on summit of mountain brs. N. 67° 10′ E.
Volcanic ledge on side of mountain brs. N. 72° E.
Highest point on ledge on side of mountain brs. S. 87° 10′ E.
S. point of ledge of rock brs. S. 83° E.
Centre of ledge of rock in valley brs. S. 71° E.
S. point of ledge on E. side of canon, brs. S. 59° 10′ E., about 25 chns. dist.
Centre of canon at Keltee Gorge brs. S. 58° 7′ E. 25 chns. dist.
Pyramid ledge brs. S. 54° 5′ E.
Ledge of volcanic rock brs. S. 12° 10′ E.
Ledge of rock on side of mountain brs. S. 10° 50′ W. (by rough triangulation 27 chns. dist.)

[fol. 916] From astronomical monument 6.
I run West along the south boundary of Colorado. Ascending from corner in aspen timber.
7.60 Ascend abruptly rocky bluff. Enter timber *timber*.
22.20 Leave heavy timber.
23.00 Summit of ridge, brs. N. and S.
27.60 Brook, course N.
31.44 Fall 2 lks. S. of 182nd mile corner on South Bd'y of Colorado. A lava rock 8 x 6 x 4 ins., above ground marks illegible.
No traces of pits or marked deposit.

Offset over corner and run west.
Over rough and broken mountain top.
12.20 Drain, course N. W.
38.70 Spring branch, course N. W.
47.20 Drain, course N. E.
80.12 Fall 7 lks. N. of old stone, marks illegible, no deposit found.
Land, mountainous.
Soil, 3rd rate.
Timber, pine and aspen.
I assume this to be the 183rd mile cor.

184th Mile

Offset over 183rd mile cor., I run W. on 184th mile over mountainous country, heavily timbered.
12.60 Drain, course S. E., ascend.
70.00 Top of ridge, brs. N. and S., descend.
76.00 Drain, course N. W.
78.00 E. wall of canon, brs. N. E. and S. W.
80.14 Fall 8 lks. S. of sandstone 8 x 6 x 4 ins. above ground, mk'd C. on N. other marks illegible.
Land, mountainous.
Soil, 3rd rate.
Timber, pine and aspen.

[fol. 917] 185th Mile

Offset over cor. and run W. on 185th mile.
Over rough, mountainous country, through timber.
.50 Descend.
50.00 Bottom of canon, spring branch, course N. E., ascend.
10.00 Top of W. wall of canon, brs. N. E. and S. W.
15.00 Small drain, course N. E.
56.00 Small drain, course N. W.
79.90 Fall 5 lks. S. of sandstone 8 x 10 x 6 ins. above ground, mk'd C. on N. and N. M. on S., from which
A pine 18 ins. diam. brs. S. 60° W., 10 lks. dist.
No other trees in evidence.
Land, mountainous.
Soil, 3rd rate.
Timber, pine, spruce and aspen.

186th Mile

Offset over the 185th mile cor., I run W. on 186th mile over mountainous country, heavily timbered.
3.60 Small branch, course N.
7.00 Enter fallen timber.
50.00 Small drain, course N.
61.00 Leave timber, enter valley, brs. N.
74.10 Brook, course N. E.
80.17 Fall 4 lks. N. of sandstone 8 x 10 x 3 ins., mk'd C. on the N., N. M. on S., from which
A spruce 20 ins. diam. brs. S. 36° E., 27 lks. dist., mk'd B. T.
Bearings to natural objects are practically correct and are as follows:
Peak brs. N. 70° W.
Peak brs. N. 15° 15′ W.
Peak brs. N. 30° E.
Peak brs. N. 58° 30′ E.
High peak brs. S. 4° 5′ E.
Point of mountain ridge, brs. N. 53° 50′ W.
[fol. 918] Land, mountainous.
Soil, 2nd rate.
Timber, pine, spruce and aspen.

187th Mile

From 186th mile cor. run W. on 187th mile, over mountainous country, through standing and fallen timber on the mountains.
14.00 Drain, course N. E.

17.00 Leave valley and enter heavy timber; ascend.
40.00 Summit of ridge, brs. N. E. and S. W.; descend.
67.00 Ravine, course N.
71.80 Creek, course N. 60° E.
80.22 Fall 20 lks. N. of the 187th mile cor., which is a lava rock 16 x 16 x 8 ins., mk'd C. on the N., 187 M. on E., and N. M. on S.
No trace of pits or deposit.
Land, mountainous.
Soil, sandy, 2nd rate.
Timber, pine, spruce and aspen.

188th Mile

Offset over 187th mile cor., and run W. on 188th mile, over mountainous timbered country; ascend.
27.00 Top of ascent. Rocky bluff brs. N. E. and S. W.; descend.
28.50 Bearings to natural objects in original notes are incorrect.
42.68 Ravine, course N. 10° W.
43.80 Ravine, course N. 10° E.; ascend.
54.00 N. slope of hill.
55.00 Descend gradually.
71.00 Drain, course N. 15° W.; ascend.
75.00 Highest point on N. slope of hill, descend through fallen timber.
80.00 Fall 14 lks. S. of the 188th mile cor., (re-established by Edwin H. Kellogg).
[Vol. 9] A lava rock 16x12x8 ins., mk'd C. 188 M. on N., and N. M. on S.
A pine tree 12 ins. diam. brs. N. 8° W., 190 lks. dist.
Bearings to natural objects are practically correct, and are as follows.
Timbered hill brs. S. 27° W., and S. 47° W., S. and W. side respectively.
Prairie peak brs. S. 65° W.
Volcanic boulder brs. N. 67° W.
Volcanic ledge on hillside brs. N. 56° 30' W.
W. point of mountain ridge, brs. N. 6° 7' E.
Land, mountainous.
Soil, 2nd rate.
Timber, pine, spruce and aspen.

189th Mile

Offset over the 188th mile cor., I run W. on the 189th mile, gradually descending.
.50 Brook, course N. 60° E.; ascend gradually.

19.67 Closing cor. bet. Secs. 19 and 20, T. 32 N. R., 5° E.
23.00 Drain, course S. E.
27.30 Top of ridge, brs. N. W. and S. E.; descend.
33.00 Enter aspens, brs. N. and S.
38.00 Head of valley, brs. S. 40° E.; ascend.
44.00 Top of ridge, brs. N. and S.; descend through spruce timber.
51.00 Leave spruce timber, brs. N. and S.
56.00 Edge of cliff 1,000 ft. above valley to the W.
80.00 Set stake for temp. 189th mile cor.
Land, mountainous.
Soil, rocky, 4th rate.
Timber, pine, spruce and aspen.

[fol. 920]

190th Mile

From the 189th mile cor., I run W. on the 190th mile, descending through fallen timber.
15.84 Bearings to peaks in the original notes are found as follows: High volcanic peak brs. S. 42° 15′ E., S. 20° 12′ E. S. 7° 30′ E., S. 14° 45′ W., N. 63° 12′ W.
Point of volcanic rock brs. N. 45° W.
50.00 Brook, course N. 30° E.
51.10 Large boulder 10 cubic feet, 10 lks. S. of line.
53.00 Brook, course N. E.
57.00 Brook, course N.
65.00 Edge of bluff, descend into Wolf Creek Valley.
80.12 Fall 9 lks. N. of the 190th mile cor., which is a sandstone 24x12x6 ins. unk'd C. on the N., N. M. on the S., other marks partly defaced.
No trace of pit or deposit.
Land mountainous.
Soil, sandy, 3rd rate.
Timber, pine, spruce and aspen.

191st Mile

Offset over 190th mile cor. and run W. on the 191st mile, descending through timber into Wolf Creek Valley.
11.50 E. bank of Wolf Creek 1 chn. wide, course S. W.
Thence through densely timbered creek bottom.
32.00 Wagon road, brs. N. E. and S. W.
38.00 Drain, course S. W.
54.00 Brook, course S.
61.00 Small brook, course S., leave bottom and ascend.
79.31 The center of D. R. G. R. R. brs. N. 35° E. and S. 35° W.
80.00 Position for 191st mile cor. falls in railroad cut, and has evidently been destroyed.

Bearings to natural objects are practically correct and are as follows:

[fol. 921] Volcanic ledge of rock brs. N. 28° E.
Volcanic ledge of rock brs. N. 38° E.
Volcanic rock on ridge, brs. S. 68° 15' E.
Volcanic ledge brs. S. 60° 10' E.
Volcanic rock on ridge, brs. S. 47° E.
White sand slide on mountain side brs. S. 10° E.
Land, mountainous and level.
Soil, 1st and 2nd rate.
Timber, pine and aspen.
Set temp. stake for 191st mile cor.

192nd Mile

From temp. 191st mile cor., I run W. on the 192nd mile.
Over rough and broken country.
.20 Top of railroad cut, brs. N. E. and S. W.; ascend through oak brush.
9.30 Large boulder 20x10x6 ft., 4 lks. S. of line.
18.60 E. end of rock slide.
21.00 Leave slide.
21.50 Enter slide.
Thence over Eastern slope of mountain.
30.00 Top of mountain brs. E. and W.
35.00 Enter spruce and scrub oak.
Descend gradually through dense timber.
61.00 Drain, course S. 70° W.
64.90 Drain, S. E.
70.10 Brook, course S. 60° W.
78.50 Begin abrupt descent.
80.00 Set stake at 192nd mile for cor. (temp).
No trace of original monument remains.
Land, mountainous.
Soil, 2nd rate.
Timber, pine, spruce and aspen.

[fol. 922] 193rd Mile

From temp. 192nd mile cor., I run W. on 193rd mile.
Over rough country through dense timber; descend.
Foot of descent.
12.00 Foot of descent.
24.00 Leave timber, brs. N. E. and S. W.
33.00 Drain, course S. E.
38.55 Descend gradually over open country.
79.80 Dry creek, course S. W.

80.00 Set stake for temp. 193rd mile cor.
No trace of original cor. left.
Bearings to natural objects are practically correct.
Land, mountainous and rolling.
Soil, sandy, 2nd rate.
Timber, pine and aspen.

194th Mile

From temp. 193rd mile cor., I run W. on the 194th mile; gradually descending through open country.

16.70 Road N. 30° W. and S. 30° E.
17.60 Dry brook, course S. W.
21.10 Descend 1st bank Rio Chama, brs. N. E. and S. W.
23.40 Enter willows, brs. N. and S.
24.00 Rio Chama 50 lks. wide, 18 ins. deep, clear water, course S. W.
In river bottom through willow timber.
28.00 Leave valley, ascend through fallen timber.
33.65 Summit of spur, enter aspen timber.
36.50 Leave aspen timber.
Top of ridge, brs. N. and S.
Descend.
42.00 Drain, course S. 20° E.
Begin ascent of the Navajo mountains.
50.30 Spring branch, course S. 10° W., in small valley.
Begin steep ascent through heavy spruce and aspen timber.

[fol. 922½]

63.80 Top of spur, brs. N. and S.
69.00 Spring branch, course N. 30° E.
80.00 Set stake for temp. 194th mile cor., no trace of original cor. can be found.
Land, mountainous.
Soil, sandy, 2nd rate.
Timber, spruce and aspen.

195th Mile

From the 194th mile cor., I run W. on the 195th mile.
Ascending through heavy timber.

5.00 Top of bench, brs. N. and S.
11.00 Enter fallen timber.
18.00 Leave fallen timber, enter scattering aspen timber, brs. N. and S.
36.00 Brook, course S. E.
37.10 Enter drain, course S. E.

38.00 Leave drain, from the N.
65.00 Summit of ridge, brs. N. and S.; descend.
70.20 Brook, course N. 70° E.
Clear water, slow current.
Leave fallen and standing timber, and ascend thro. open country.
76.00 Top of bench, course N. and S.
80.00 Set stake for temp. 195th cor., no trace of old cor. left.
Land, mountainous.
Soil, rocky, 4th rate.
Timber, spruce, pine and aspen.
NOTE.—This country has frequently been swept by fire, and timber in vicinity of cor. has been recently destroyed.

196th Mile.

From the 195th mile cor., run W. on the 196th mile.
[fol. 923] Ascending through heavy timber.
26.00 Top of bench, brs. N. and S., and enter park.
36.00 Enter swampy ground.
38.70 Leave same, ascend.
51.00 Top of small ridge, brs. N. W. and S. E.
57.00 Drain, general course S.
76.00 Summit of the Navajo Mountains, thence along top of mountain.
82.16 Fall 40 lks. N. of 196th mile cor., which is a red spruce, 15 ins. in dia., blazed on N., S., E. and W. faces, mk'd respectively C. N. M., 196 M. and 1868, from which:
A white spruce 12 ins. diam. brs. S. 25° W., 16 lks. dist., mk'd. 19.6 M., N. M. B. T.
A white spruce 14 ins. diam., brs. N. 25° E., 23½ lks. dist., mk'd. 196 M., C. B. T.
Land mountainous.
Soil, rocky, 3rd rate.
Timber, pine, spruce and aspen.

197th Mile

Offset to 196th mile, I run W. on 197th mile.
Over mountain top through heavy timber.
5.66 Drain, course S.
Commence descent.
41.00 Drain, course S.
60.00 Leave heavy pine timber, and descend abruptly through growth of aspens.
The line up to this point has been following a series of very old blazes, but here they cease, and all trace of the old line is lost.

I continue my line west to the theoretical position of the 202nd mile monument. The topography does not agree with that of the original survey in any manner. The
[fol. 924] old blazes discontinue and the — from the 60 chain point on the 197th mile.

The topography does not agree with that of the original survey in any particular, the old blazes discontinue and the country is not that described in the Darling notes. It is very evident that the line west from the aspen thicket is not that surveyed in 1868.

At the 202nd mile point I made an exhaustive search for old blazes. At about 11 chains south of my line I found a few very old ax marks. Following these a short distance I found an aspen tree some links south having an

N. M.

old blaze on the north face and marked B. T. old but legible, also an old post about 10 ins. in diameter and 7 ft. in length much decayed fallen on the ground and marked C. N. M. 1868 and 202 on different sides. Northward from this post, there is a fallen aspen blazed and marked C. From the base of the post the position of the aspen tree is as follows:

Base of fallen aspen 18 ins. diam. brs. N. 5° W. 77 lks. dist. marked C.

An aspen 16 ins. diam. brs. S. 7° E. 26 lks. dist. marked N. M. B. T.

The description agrees perfectly with that of the original notes. Assuming this to be the 202nd mile corner, I ran east. The topography checks within 10 lks., the line follows the old blazes and at 80.07 chs. N. 89° 56′ E. of the 202d corner there is a very slight mound of earth and stone, but no deposit. From this mound the bearings given to the several mountain peaks agree closely with the true bearings and are as follows:

[fol. 925] The conical point on E. of Sierra Navajo brs. N. 40° E.

Highest peak of Sierra Navajo brs. N. 24° W.

Most Northern point of the Southern ridge of the Sierra Navajo brs. S. 66° 15′ E.

I am satisfied that this is the position of the 201st mile corner, but not a trace of the monument itself is left.

From the 201st mile corner, which I consider fully identified, I run East

Through heavy timber. Descending gradually

5.20 Brook, course S. W.
7.20 Brook, course S. W.
31.00 Descend rapidly, bears N. and S.
33.00 Base of slope. Enter valley, bears N. E. and S. W.
36.80 Dry bed of brook, course S. W.
39.69 Dry drain to S. lowest depression of the valley.

58.90 Drain, to S. 20° E.
59.00 Indian trail bears N. W. and S. E.
61.00 Road bears N. 20° W. and S. E.
80.00 Set temp. 200th mile corner.
I find no trace of old corner or of a marked deposit.
Land, mountainous.
Soil, rocky, 3rd rate.
Timber, pine and aspen.

200th Mile

From the temp. 200th mile corner,
I run East
Over gradually ascending surface.
20.00 Enter thick growth of aspens bears N. W. and S. E.
42.00 Leave aspens, bears N. and S.
48.50 Summit of ridge, bears N. E. and S. W.
Descend S. E. slope and enter oak brush.
Thence over rolling surface.
[fol. 926]
59.60 Descend, bears N. and S.
71.50 Draw to South, ascend.
76.50 Top of ridge, bears N. and S.
78.30 Draw to S. 30° W. Main cañon enters 2 chs. S. and drains S. W.
80.00 Set stake for temp. 199th mile corner.
I find no trace of it.
Land, rolling.
Soil, loam, 1st rate.
Vegetation, aspen, oak brush and grass.

199th Mile

From the 199th temp. cor., I run
East,
Through scattering timber.
10.00 Enter spruce timber, bears N. and S.
32.20 Drain, course N. W.
37.50 Enter small valley; bears N. and S.
39.75 Creek, course S., 10 lks. wide, shallow, rapid current.
42.50 Leave valley; ascend.
50.60 Summit of ridge, bears N. and S.
Descend in aspen timber.
77.00 Base of ridge, N. and S.
80.00 Find no trace of corner.
Set temp. 198th mile corner.

A thorough search in this vicinity fails to bring to light any evidence of the existence of the original line. Up to this point the line follows the old blazes and the topographical items are practically as noted, but not the slightest trace of the old monuments exist. The absence of these was probably due to the fact that they were of wood, and the occasional fires that sweep this region have probably long since been destroyed.

[fol. 927] 203rd Mile

Returning to the 202nd identified corner, I run West on the 203rd mile, following the old blazes.

Over rough mountainous country; ascending through heavy pine timber.

3.00 Ascend abruptly.

5.00 Top of ridge, brs. N. and S., descend.

8.60 Centre of deep draw to N., ascend N. E. slope.

14.00 Summit of ridge, slopes N., descend along N. slope of mountain.

68.20 Drain to N.

Thence over rough, broken country.

80.22 Fall 11 lks. N. of the 203rd mile cor., which is a rotted and fallen post. No marks legible, from the base of which:

An aspen tree 17 ins. diam. brs. N. 5° W., 57 lks. mk'd. B. T.

An aspen tree 14 ins. diam. brs. S. 5° W., 25 lks. dist., mk'd. B. T.

I consider this cor. fully identified.

Land, mountainous.

Soil, rocky, 3rd rate.

Timber, pine and aspen.

204th Mile

Offset over 203rd mile cor., and run West on the 204th mile, over mountainous surface, thro dense timber.

1.60 Pond of water 150 lks. wide, covered with fallen timber.

11.50 South end of open valley; drain N.

Thence over rolling ground covered with fallen timber.

19.00 Heavy aspen timber, brs. N. and S.

51.00 Leave aspen timber, brs. N. and S., enter oak brush; ascend.

64.50 Top of ridge, brs. N. W. and S. E. Thence along S. W.

[fol. 928] slope of ridge.

80.00 Set stake for temp. 204th mile cor.

No trace of the original cor. can be found.

From temp. cor. timbered peak brs. S. about 1 mile dist.,
Point of perpendicular rock brs. 58° W
No conical peak visible N. W.
Land, mountainous.
Soil, rocky and sandy, 4th rate
Timber, pine and aspen.

205th Mile

From temp. 204th mile cor., I run
West over mountainous surface, through oak brush.
Ascend.
20.00 Top of ridge, brs. N. and S.; descend.
12.00 Draw, to N. W.
Thence along N. slope and descend through oak brush and scattering spruce.
77.50 Dry bed of spring branch, course S. W.
80.00 Set temp. 205th mile cor. No trace of original monument can be found. Bearings to natural objects do not agree.
Land, mountainous.
Soil, rocky and sandy, 2nd rate
Timber, pine, spruce and aspen.

206th Mile

From temp. 205th mile cor., I run
West on the 206th mile. Over rolling country
5.20 Leave valley, brs. N. E. and S. W.; ascend through oak brush.
37.00 Top of hill, highest point on rolling ground.
Hill slopes S. to valley, 5 chns. dist., descend.
80.42 Fall 23 lks. N. of position for 205th mile cor. which is a decayed pine post, marks nearly illegible from foot of
[Col. 929] which a pine tree 36 ins. diam., brs. N. 14° 30′ E., 258 lks. dist., mk'd B. T.
Pine tree fallen 28 ins. diam. brs. S. 71° 40′ W., 240 lks. dist., mk'd. B. T.
Land, mountainous.
Soil, sandy, 2nd rate.
Timber, pine and aspen.

207th Mile

From the 206th mile cor., run West on the 207th Mile
Over rolling country, through fallen timber.
1.00 Ascend.
5.00 Top of conical hill.
Leave fallen timber and descend into valley.
12.00 Wood road in valley, brs. N. and S., ascend.
14.50 Top of small rise, brs. N. W. and S. E.; descend.
23.00 Enter valley, brs. N. W. and W.
24.20 Road brs. N. W. and S. E.
28.39 Dry brook, course N. 70° W.
36.70 Leave valley, and enter oak brush, ascend.
46.50 Top of ridge, brs. N. W. and S. E.
57.50 Enter valley, brs. N. W. and S. E.
78.80 Creek, dry and high banks, drains N. W., Thence in creek.
79.60 Leave creek bed.
80.10 Set stake for 207th mile cor.; No trace of old cor. can be found.
Land, mountainous.
Soil, sandy, 2nd rate.
Timber, pine and oak brush.

208th Mile

From the 207th mile cor., run W. on the 208th mile.
4.50 Bank of dry creek 1.00 chn. wide.
5.00 Trail, brs. N. W. and S. E.
7.06 Leave valley, brs. N. W. and S. E.; ascend N. E. slope and
[fol. 930] oak brush.
26.50 Top of ridge, brs. N. W. and S. E., descend.
33.00 Leave oak brush, brs. N. W. and S. E.
35.50 Enter valley, drains N.
46.00 Leave valley, over rolling, brushy surface.
80.00 Set stake for temp. 208th mile cor.; No trace of old cor. can be found.
Bearings to natural objects are practically correct and are as follows:
Mountain peak brs. N. 26° 15′ W.
Point of mountain ridge (uncertain), brs. N. 4° 10′ E.
Mountain peaks bear N. 28° E., and S. 45° 12′ W.
Land, rolling.
Soil, sandy, 2nd rate.
Timber, pine and oak brush.

209th Mile

From the temp. 208th mile cor. run W. on the 209th mile.
Over rolling surface, and through oak brush.
45.00 South end of open valley.
Lay off a base 20 chains N. to a point from which the flag on the mountain to the W. brs. S. 32° 5′ W.
Distance triangulated 31.90 chns., this distance + .45 chns. =
76.90 Top of mountain, ridge brs. N. and S.
80.00 Set stake for temp. 209th mile cor.
No trace of old corner can be found.
Land, mountainous.
Soil, rocky, 3rd rate.
Timber, pine and aspen.

[fol. 931]

210th Mile

From temp. 209th mile cor., run W. on the 210th mile over rough, mountainous country, heavily timbered.
Descending through dense growth of aspen.
6.50 Canon E. wall of canon, 300 ft. deep, course S. 15° W.
30.00 West wall of canon, course S.; ascend.
35.00 Top of ridge; near S. point, brs. N. and S.; descend.
38.00 E. wall of canon, 500 ft. deep, course S.
63.75 Leave canon, course S.
77.00 Along ridge, brs. N. 20° E., and S. 20° W., descend.
79.00 E. wall of canon, 500 ft. deep.
80.00 Falls in bottom of canon.
Set stake for temp. 210th mile cor.
Land, rough and mountainous.
Soil, rocky, 4th rate.
Timber, pine, aspen, oak brush.

211th Mile

From temp. 210th mile cor., run W. on the 211th mile.
Ascend over rough, broken surface.
8.20 West wall of canon.
9.10 Enter 2nd rate pine timber, brs. N. E. and S. W.
Thence over rolling ground, following the old blazes.
76.20 A pine tree 36 ins. in diam. has been recently mk'd C. on the N., N. M. on the S., 211 on the E., and 37 N. L. on the W., brs. N. 90° lks. dist.
80.00 Set a stake for temp. 211th mile cor., No trace of old cor. can be found.
Land, rough and mountainous.
Soil, sandy and rocky, 4th rate.
Timber, Pine, aspen and oak brush.

212th Mile

From the temp. 211th mile cor., run W. on the 212th mile. Descending gradually through heavy timber.

18.70 Log Chute in ravine to S. W.
33.31 Set flag on E. side of canon.
40.10 E. wall of canon about 800 ft. deep, course N. W.
[fol. 932] Set flag on W. side of canon.
From flag on W. side of canon, I run off base 14 chns. to the N. to a point from which the flag on the E. side of the canon brs. S. 60° E.
64.35 Flag on W. side canon.
Thence over rolling surface.
80.00 Set a stake for temp. 212 mile cor.
Land, rough and broken.
Soil, rocky, 4th rate.
Timber, pine and oak brush.

213th Mile

From the temp. 212th mile cor. I run W. on the 213th mile, over rolling country gradually descending through timber.

22.50 Draw to S. W.
31.00 Draw to S. W.
73.00 Ravine, course S. W.
77.00 Same ravine, from S. E.
80.00 Set stake for temp. 213th mile cor.
No trace of original cor. can be found.

NOTE.—The line follows the very old blazes, but no trace of the original monuments can be found.

Land, rolling.
Soil, sandy, 3rd rate.
Timber, pine and aspen.

214th Mile

From the temp. 213th mile cor., I run W. on the 214th
[fol. 933] mile over scattering timber.

31.20 Road in draw, brs. N. W. and S. E., ascend.
60.00 Top of ridge, brs. N. and S., descend.
72.50 Arroyo and draw, course N. W.
80.00 Set stake for temp. 214th mile cor.
Land, rolling.
Soil, sandy, 2nd rate.
Timber, pine and aspen.

241st Mile

From the temp. 241th mile cor., I run W. over rolling country and scattering timber.

Ascend.

7.15 Top of ridge, brs. N. and S.

Thence over Mesa country.

31.75 Fence brs. N. E. and S. W.

32.00 Enter bottom, brs. N. E. and S. W.

36.00 Left bank of Rio Navajo brs. S. 70° W.

37.80 Right bank of Rio Navajo, thence in bottom through heavy timber and brush.

42.10 Centre of railroad track brs. N. 72° W., and S. 72° E. (New Mexico Company Railway).

42.40 Wagon road parallel to railroad.

44.50 Brook 10 lks. wide, 2 ft. deep, course S.

Leave river bottom, ascend.

47.15 Fall 20 lks. N. of pile of rock, 4 ft. base, 2 ft. high, beneath which at a depth of 3 ft. I find a sandstone mkd. Aft. Sta. No. 7.

[fol. 934] Astronomical monument No. 8 is a white sandstone 36 x 14 x 10 ins., above mound of stone 6 ft. base, 1 ft. high, mk'd. 1868 on the E., 37 N. L. on the W., New Mexico on the S., and Colorado on the N.

Monument is in good condition. No trace of pits. Bearings to Natural objects are practically correct and are as follows:

Conical peak brs. N. 12° 30' W.
Conical peak brs. S. 4° E.
Conical peak timbered brs. S. 3° W.
Point of timbered ridge brs. S. 12° 18' W.
San Juan valley brs. S. 10° W.

242nd Mile

From Astronomical monument No. 8, I run E. on 242nd mile, through scattering timber.

4.60 Top of E. bank of canon.

5.30 Drain, course S. W.

9.25 A sandstone 6 x 6 x 4 ins., mk'd. 5 on E., 4 on W., and C. C. on the N., 4 rs. 4 lks. N. of line.

17.00 Drain, course S. E.

19.00 W. bank of San Juan canon; descend into canon.

21.70 Set stake for temp. 241st mile cor.
Land, rolling.
Soil, sandy, 3rd rate.
Timber, pinion, cedar.

241st Mile

From temp. cor. run E. on the 241st mile; descending into San Juan Valley.

1.50 Base of descent of San Juan river, course S. W.
6.00 Left bank of river, thence across level valley through timber and brush.
12.40 Irrigated ditch, course S. W.
12.70 Road brs. N. E. and S. W.
15.00 Cor. of rail fence, brs. S. E. and S. W.
[fol. 935] Log house brs. 25 lks. North.
21.80 Rail fence, brs. N. and S.
37.50 Rail fence, brs. N. and S.
37.80 Irrigating ditch, course S. W.
41.00 Log house on line; commence gradual ascent.
51.50 Road brs. N. E. and S. W.
52.60 Road brs. S. and N. E.
70.50 Road brs. N. E. and S. W.
80.00 Set stake for temp. 240th mile cor.; no trace of old cor. can be found.
Land, river valley.
Soil, loam, 1st rate.
Timber, cottonwood and willow.

240th Mile

From temp. 240th mile cor., run E. on the 239th mile; ascending gradually.

19.00 Leave valley; begin ascent of rough, rocky mountains.
As no corners were set between the 240th and 235th mile corners, and no topographical items noted in the original record on this portion of the line, the topography noted in my survey can be of no assistance in identifying the boundary line and will be omitted.
Temporary corners were set for the 239th, 238th, 237th and the 236th mile monuments and at 89.40 chs., east of the 236th temp. mile cor. fall 39 lks. N. of what I consider the remains of the 235th mile corner.
Two very old and nearly filled pits are located east and west of a slight mound. No stone found. A boulder 6 x 6 x 4 ft. bears S. 45° E., 9 lks. dist. from a point midway bet. the pits.

The mound and pits are overgrown with brush and covered
[fol. 936] with fallen timber, but this spot is on a rough mountain side unfrequented by man and it is unlikely that the 235th mile monument has been disturbed.

From the 235th mile cor., I run E. on the 235th mile
Through heavy timber on mountain side.

16.00 Drain, course N.
28.00 Drain, course N.
52.00 Ravine, course N.
Begin ascent.
70.00 Top of bluff, brs. N. and S., ascend gradually.
80.00 Set stake for 234th mile cor.
Land, mountainous.
Soil, rocky, 3rd rate.
Timber, Pine, spruce and pinon.

234th Mile

From temp. cor. I run E. on 234th mile, descending gradually.

2.00 Draw to N. E.
8.00 Centre of dry, rocky bed of mountain brook in ravine; course N. 20° W.
Begin steep, rocky ascent.
20.00 Top of ridge, brs. N. 10° W. and S. 10° E.
Descend through heavy timber into San Juan valley.
80.00 Set stake for temp. 233rd mile cor.
Land, mountainous.
Soil, rocky, 3rd rate.
Timber, pine, cedar and pinon.

233rd Mile

From temp. cor., I run E. on 233rd mile, over rough surface, through timber.

10.00 Canon brs. N. E.
30.00 Leave mountainous country, and enter valley of the San Juan.
Set stake for 233rd temp. mile cor. on bar along S. bank
[fol. 937] of San Juan river.
Find no trace of temp. Witness Cor.
Land, rough and level.
Soil, sandy, 1st and 2nd rate.
Timber, pine, pinon and cedar on the mountains, cottonwood and willow along river banks.

232nd Mile

From the temp. 232nd mile, I run E.
Over level bottom land.
5.00 San Juan river, course N. W. 2.00 chns. wide, rapid current 2 ft. deep.
Thence through thick willow and cottonwood timber.
19.00 San Juan river, course S.
59.00 San Juan river, course N. W.
70.00 San Juan river, course S. W.
80.00 Set stake for 231st temp. Mile cor.
Land, level river bottom.
Soil, sandy loam, 1st rate.
Timber, cottonwood and willow.

231st Mile

E. on the 231st mile; through level river valley.
50.00 Old river bed, now dry.
40.00 Leave valley, and ascend.
80.00 Set stake for temp. 230th mile cor.
Land, level and mountainous.
Soil, sandy loam, 1st rate.
Timber, cottonwood and willow.
The San Juan valley or more correctly the first bottom of the San Juan river in this vicinity is only about 100 yds. in width. By platting the old river bed it is evident that there is only a space of about 150 lks. in width [fol. 938] where the original boundary line could pass and cross the river the number of times recorded, and there is only one place in the valley where such a line will cross and intersect the river at the distances noted by E. N. Darling.
This position of the line is 34 lks. N. of the line carried eastward from Astronomical No. 8, and coincides with a line of very old ax marks and cuttings, which I believe and which is generally thought in this neighborhood to be, the marks of the original survey. However, no monuments or even traces of them were found in the valley. This condition is readily accounted for by the fact, that the river has in many places in the last 30 years washed away its old banks and changed its course.
As no corners were established east of the San Juan valley up to the witness corner at 35.80 chains west on the 224th mile. The topography on this portion of the line will be omitted as it cannot assist in the identification of the old line.

Temp. corners were set for the 229th, 228th, 227th, 226th, 225th and 224th mile corners, and a careful search made for the witness cor. on the 224th mile, but no evidence of its existence was brought to light.

At 76.29 chs. east of the temp. 224th mile cor. fall 7.77 chs. S. of the old S. E. cor. of the Southern Ute Indian Reservation.

Find no trace of the 223rd mile corner.

The distance to the Navajo river just West of the 223rd mile corner, falls about 12 chs. short of the recorded distance.

From the most probable position of the 223rd mile corner as determined by its relation to the Navajo river, I run
[fol 1639] West 35.80 chs., and make careful search for witness cor., I find no trace of it.

Set temp. 223rd mile cor., determined by course and distance from the W., 222nd, 221st, 220, 219th, 218th and 217th mile cor.

At 12.34 chns. fall 48 lks. N. of what is believed to be the 217th mile cor. A very old mound of earth and the remains of two very old pits E. and W. of the mound.

A broken sandstone originally about 20 x 10 x 8 ins. on the surface of the ground, has been mk'd, but is illegible now.

Assuming the mound to be the 217th mile cor., I run E. on the 217th mile.

Over top of mesa through heavy timber.

At 6.00 chns. edge of bluff; descend Archuletta Mountain.

80.00 Set stake for temp. 216th mile cor.

Continue descent of mountain.

At 80.00 chns. set stake for temp. 215th mile cor.

A careful search was made for old cor., but other than a few scattering blazed trees running in an East and West line close to the temp. 215th mile cor., No trace of the original line is left.

From temp. 215th mile cor., I run East on the 215th mile, and at 67.20 fall 45 lks. fall South of an old stake, set in a mound of stone. This is not the original mark for Astronomical monument No. 7, but has been here as long as some of the oldest inhabitants of the town of Edith can remember, and several disinterested parties have preserved this location thinking it on the state line. Assuming this to be Astronomical monument No. 7, I run a trial line West; the topographical items noted in the original record are practically correct and are as fol-
[fol 1640] lows:

1.70 East of ridge, bears South.
2.70 Top of ridge, bears South 20° W.
Thence over top of ridge.
12.00 descent.

17.75 Foot of ridge.
At 19.80 creek 20 lks. wide, clear water, course S.
26.20 Wagon road bears N. and S.
At 32.80 leave valley and enter timber, bears N. and S

54.70 I make a careful search for the 215th mile cor., but can find no evidence of it. I now return to the assumed Astronomical monument No. 7, and test the bearings to the natural objects recorded.

These bearings do not agree exactly from this station, but from a point N. 26 W., 38 lks. dist.

The bearings to the several peaks are as follows:
When a mountain ridge bears N. 63½° E.
Peak on the Navajo range bears N. 66° and 28′ E.
Point of bluff on the S. side of Navajo river bears S. 69° 40′ E.
Mountain peak bears S. 32° 30′ W.
South point of ridge bears S. 46° 30′ W. (highest point S. 46° 40′ W.).

This seems the most probable position of the old Astronomical monument. The bearings practically agree, and the topography to the West is substantially that of the old notes and furthermore this position is practically on the line carried E. from Astronomical monument No. 8.

The stone deposit found on any line from the east and marked Ast. station 7 bears S. 35° 30′ W., 43.06 chs. dist.

[fol. 941] East from the probable location of Astron. monument No 7, the topography agrees fairly well, up to the canon at 70 chns. on the 212th mile, noted in the original record, and a few old blazes are in evidence. Eastward from the canon however, all trace of the old line is lost.

[fol. 942] After a study of the question, on the ground, I have arrived at the following conclusion as to the probable cause of these errors.

The line between astronomical monuments 6 and 8 passes over the great Conejos and Navajo mountain ranges, the continental divide and numerous smaller mountains and mesas, which latter are cut up by deep rugged canons. The country is rough and there is considerable local magnetic attraction noticeable.

At the 60th ch. point on the mountain (197th mile), a sight was probably taken to the valley of the Chamita, which is visible 4 miles west, with the needle.

Local attraction is quite noticeable on the Navajo range and could have deflected the line, I think, 11 chains in that distance. Then once on the new line it was continued west to the Rio Navajo valley where astronomical station 7 was established. It was here that observations were made for latitude and the line found to be 35 chs. south of the 37th parallel. The astronomical monument was then placed this distance north and twenty-five chains east and per-

manently established and then from this monument the line was continued east to the canon and west to Ast. mon. No. 8.

This of course is merely the most plausible theory I think gathered from the facts on the ground. Some people in the vicinity of Edith, Colo. (near Ast. mon. 7) have long contended that there are two lines in existence in that locality, and I think this condition of the boundary accounts for that belief. Their opinions however are at such variance that their testimony can be of little value in determining the true situs of the Astronomical monument.

[fol. 943]

Description

The surface of the country along the Colorado, New Mexico Boundary line between Astronomical monuments Nos. 6 and 8, is exceedingly diversified in character. The main axis of the Rocky mountains cross this portion of the line, and divides the country into two sections widely different in topography, climate and soil. East of the range the surface is broken by the great Navajo and Conejos mountains, which rise to an elevation of over 1,300 ft. Numerous valleys of exhaustless fertility are found through which never failing streams flow and afford abundant water supply for irrigation purposes. The country is chiefly valuable for its fine forests of pine and spruce timber, although these have been greatly damaged in past years by the occasional fires that have swept the land. West of the divide the country is practically a series of barren mesas or plateaus, varied by deep canons formed by the erosive flow of its rivers. Altogether this section is rugged and mountainous in the extreme, presenting but a comparatively small area for the varied uses of husbandry.

The principal geological formations are the volcanic and cretaceous. The Continental Divide the Navajo and the Conejos ranges are of volcanic origin, while the western portion is cretaceous.

There are many fine streams along the boundary line the principal ones being the Rio Los Pinos in the Conejos mountains; the Rio Chama between the Conejos and Navajo mountains and the Rio Navajo, Rio San Juan and the Peedra river west of the divide.

The whole country appears to be underlaid with coal and several mines are being developed, the principal deposits being at Nomero on [fol. 944] the line of the D. & R. G. R. R., where they are extensively worked. Oil has recently been discovered in the vicinity of Edith, Colorado. A large number of placer claims have been taken and several wells are in operation.

No evidence of mineral was discovered near the boundary line.

Topography

Astronomical monument No. 6 on the 182nd mile of the original survey is situated on the west side of, and in the canon of the Rio Los Pinos, on the east slope of the Conejos range. Proceeding westward the line ascends several thousand feet to the summit of the mountains near the 190th mile corner. It then descends over a succession of

deep canons and ravines to the valley of the Chamita, near the 195th mile monument. It was here that the most difficult part of the work was encountered, crossing the Navajo mountain range. From the Chamita valley the boundary line ascends through heavy timber and brush. The numerous ravines and gorges together with the large amount of fallen timber, greatly retarding progress and rendering it almost impassable in places. The summit is reached near the 196th mile. There is a depression of about 1,500 ft. to the valley of the Chamita on the 200th mile where the surface again rises to the Continental divide.

Crossing the divide and for some miles down on the Pacific slope the line passes through a heavy tangled mass of vegetation. The western descent is marked by a series of deep, rugged canons, generally environed by a wall of perpendicular sandstone impassable in [fol. 945] places and necessitating miles of detour in order to cross them. This country gradually descends to the valley of the Rio Navajo at the town of Edith, a prosperous little lumber camp of about 350 inhabitants, largely Mexicans. Westward from Edith the country rises again to for nithe routih, precipitous mesas cut up by deep gorges and canons, the most notable of which is the second crossing of the Navajo. Eight miles west of this river the surface gently descends to the valley of the Rio San Juan. This valley extending about two miles along the line is extremely fertile and is in a fair state of cultivation, the chief products being wheats, oats and corn. Leaving the valley the line traverses the steep breaks of the river to the 140th mile where it again enters the valley of, and finally crosses the San Juan to the low, desert mesas over which it runs to Astronomical monument No. 8.

On account of the high altitude the winters are generally severe and very little work in the field can be performed, on account of snow before May 15th or after Oct. 15th.

[fol. 946] Recommendation

Astronomical monument No. 7 is lost. There is not the slightest trace left of the monument itself. However, its original position can be identified within a few feet; from bearings to the several mountain peaks, from the topography to the west, from the very old blaze, from its position relative to the identified corners to the west and from the evidence of old settlers, whose testimony although conflicting as to the longitudinal position of the monument practically agrees, that a monument supposed to be on the state line stood at the southwestern end of the town of Edith, and on the line from the west.

I consider the evidence of sufficient value to justify re-establishment of astronomical monument 7, at the town of Edith, at the point determined by the original bearings, inasmuch as it is the only point from which the bearings to the different peaks will check, and the topography on either side agree with the notes of the Darling surveys.

The 206th mile monument is the most westerly identified corner east of astronomical monument No. 7. The country west of the 206th mile corner practically agrees with Darling's description and

the line follows the old blazes, but there is no definite point between the 206th mile cor. and astronomical monument No. 7, that can be positively identified by the combination of bearings, topography and general description.

I would therefore recommend that astronomical monument No. 7, be restored to its original position at Edith and monuments set by proportionate measurement on a line joining astronomical monument No. 7 and the 206th mile cor.

[fol. 947] The boundary line between the 196th mile and the 201st mile monument is practically lost.

The 196th mile cor. is fully identified. There is no trace of the 201st mile monument excepting an old mound; but from this mound the bearings to the several mountain peaks check very closely, it is on the line of old blazes and bears N. 89° 56' E., from the fully identified 202nd mile cor., 80.07 chs. dist.

I believe the mound to be the remains of the 201st mile corner, and think it should be restored and monuments placed at proportionate distances on a line joining the 201st and 196th mile corner. This portion of the line falls within the limits of the Tierra Amarilla Grant, the interior of which is unsurveyed, so that no material interests can be affected by this position of the boundary. The two above mentioned discrepancies in alinement of the old survey are the only two of a serious nature. The several lost corners of other portions of the line can be restored by proportionate measurement between identified corners.

The old S. E. corner of the Southern Ute Indians Reservation established by R. C. Darling in 1873, is situated 7.77 chs. N. of the boundary line run from the west.

The new S. E. corner of the Southern Ute Indian Reservation established by S. S. Gannett in 1897 is 12.64 chs. N. of the boundary line.

Frank M. Johnson, Examiner of Surveys.

[fol. 948] Oath of Special Agent for the Examination of Surveys

I, Frank M. Johnson, special agent for the examination of surveys, do solemnly swear that, in pursuance of instructions received from the Commissioner of the General Land Office, bearing date the — day of ——, 190–, and the — day of ——, 190–, I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by said Commissioner, examined all those parts or portions of the Colorado, N. Mex. bdy. line bet. Ast. Mons. No. 6 & 8, — Meridian, in the ——, surveyed by E. N. Darling in 1868, U. S. Deputy Surveyor, under contract No. —, dated ——, 190–, as are represented in the foregoing field notes as having been examined by me; and I do further solemnly swear that the foregoing are the true field notes of such examination.

Frank M. Johnson, Examiner of Surveys.

Subscribed and sworn to before me this 12th day of March 1962. Charles B. Strong. (Seal.) My commission expires March 11, 1965.

[fol. 949] PLAINTIFF'S EXHIBIT No. 3

Chapter 37—Boundaries

(H. B. No. 122, by Mr. Burwell)

An Act

To re-establish and fix the southern boundary line of the State of Colorado on the thirty-seventh parallel of north latitude, between astronomical monument No. 6, near Osier, Colorado, and astronomical monument No. 8, near Arboles, Colorado, as heretofore established by Ehud N. Darling, for the Government of the United States, and to make the report and record of the survey and re-establishment of said line, when filed and recorded in the office of the Secretary of State, evidence in all courts of Colorado.

Be it enacted by the General Assembly of the State of Colorado:

Section 1. That the governor of the state of Colorado be, and he is hereby, authorized and empowered to appoint a commissioner on behalf of the state of Colorado, whose duty it shall be, either in conjunction with a like commissioner, appointed by the authority of the territorial assembly of New Mexico, if said territory shall hereafter appoint or designate such commissioner, and any person or commissioner appointed and designated by the interior department of the United States, if said interior department shall so designate or appoint any such person or commissioner, to act in said premises, or with either one of such persons or commissioners, or acting solely for the state of Colorado in said behalf to by appropriate proceedings and surveys and astronomical observation, such as may be necessary and requisite to fix and determine the southern boundary line of the state of Colorado, and between said state of Colorado and the Terri- [fol. 950] tory of New Mexico, between astronomical monument numbered 6, heretofore established on the 37th parallel of north latitude, and at a point on said parallel near Osier, Colorado and extending thence westward along said 37th parallel of north latitude, fixed as the southern boundary line of Colorado by act of congress, and heretofore surveyed by Ehud N. Darling, for the United States, to astronomical monument numbered 8; also established by said Darling on said parallel at a point about four miles west of Arboles, Colorado, and to resurvey and re-establish said line as heretofore surveyed and established by the said Darling between said astronomical monuments.

Sec. 2. That in the event of the failure of either or both the said territory of New Mexico to appoint and designate such commissioner on the part of the said territory, or the said interior department of the United States to designate and appoint some person or commissioner to act in said premises on the said government of the United States, on or before July 15th, 1901, that then the said commissioner so appointed by the said governor of the state of Colorado is authorized and empowered to resurvey and re-establish the said southern boundary line of the said state of Colorado, as heretofore surveyed and established by the said Darling, between said astronomical monuments aforesaid, numbered 8 respectively.

Sec. 3. That the said commissioner, when appointed, shall have power, and he is hereby authorized, to and shall proceed after July 15, 1901, in conjunction with the other commissioners as herein provided for in conformity with this act, without delay, to resurvey and re-establish the said southern boundary line of the said state of Colorado, between said astronomical monuments numbered 6 and numbered 8, respectively, and to place an appropriate and substantial monument, where the proper place therefor is accessible, at the end of each mile thereof from the said astronomical monument numbered 6 to the said astronomical monument numbered 8, and to [fol. 951] mark and number each of said mile posts in manner and form heretofore followed by said Darling in marking and designating the said mile posts along the said southern boundary of Colorado in the original survey thereof.

Sec. 4. That the said commissioner or commissioners, as the case may be, upon the completion of said survey, shall make accurate and detailed report of all his acts and doings in said premises, and showing in what manner he has caused said line to be re-surveyed and re-established, and the course and bearings thereof, and which report shall be made under oath and shall be filed in the office of the secretary of state of Colorado; and the said secretary of state is hereby directed to duly record the same in the records of his office, and said report, when so filed and recorded in the office of the said secretary of state, and duly certified copies thereof issued out of the office of the said secretary of state, shall be received as conclusive evidence in all of the courts of the state of Colorado, in all causes of every kind and nature whatsoever arising therein, wherein the said southern boundary line of the said state of Colorado shall be in controversy, as to where said line was, and is, as fixed by the said act of congress, and by the said original survey thereof by the said Ehud N. Darling, until such time as the government of the United States shall fully re-survey and re-establish said line.

Sec. 5. That there be and is hereby appropriated out of any moneys in the state treasury, not otherwise appropriated, the sum of four thousand dollars, or so much thereof as may be necessary, to be expended in said premises by said commissioner for the purpose of carrying this act into effect. And the said commissioner is hereby authorized and empowered to employ such assistance, skilled or other-

wise, as may be necessary in the marking and designation and re-establishment of the said southern boundary line as hereinbefore provided for. And the said commissioner shall be entitled to and shall receive the sum of $10.00 per day for his services, besides his actual expenses, during such time as he may be employed in said premises.

[fol. 952] Sec. 6. That in the opinion of the general assembly an emergency exists; and, therefore, this act shall take effect and be in force from and after its passage.

Approved April 11, 1901.

[fol. 953] PLAINTIFF'S EXHIB'T No. 4

Office of the Secretary of State

State of Colorado.

UNITED STATES OF AMERICA,
State of Colorado, ss:

Certificate

I, Carl S. Milliken, Secretary of State, of the State of Colorado, do hereby certify that the annexed is a full, true and complete transcript of the report of re-survey of the Southern boundary line of the State of Colorado by Charles A. Johnson, which was filed in this Office the Twelfth day of June, A. D. 1903, at 12:20 o'clock p. m., and admitted to record.

In testimony whereof I have hereunto set my hand and affixed the Great Seal of the State of Colorado, at the City of Denver, this Fourth day of February A. D. 1922.

Carl S. Milliken, Secretary of State, by Chas. W. Armstrong, Deputy. (Seal of State of Colorado, 1876.)

[fol. 954] Report of Charles A. Johnson, Commissioner, heretofore appointed by the Governor of the State of Colorado under act of the Legislature of the State of Colorado approved April 11, 1901, to resurvey the southern boundary line of the State of Colorado as heretofore established by Ehud N. Darling in 1868.

To the Honorable Secretary of State of the State of Colorado:

I, Charles A. Johnson, duly appointed a commissioner of the State of Colorado on to-wit: April 20, day of April 1901, to resurvey the southern boundary line of the State of Colorado between astronomical monuments No. 6 and 8 respectively, and under and by authority of an Act of the Legislature of said State approved April 11th, 1903, respectfully report:

That I duly qualified as such commissioner on April 20th, 1901, and on to-wit, July 15, 1901, entered upon the duties of said office. The Government of the United States and the Government of the Territory of New Mexico, although duly notified of the provisions of said Act, each neglected to appoint and designate any person to act as commissioner in said behalf in said premises, and I accordingly proceeded to resurvey said line between said points by going on the ground with a competent civil engineer and other necessary assistance and commencing at astronomical monument No. 6 found near the true line of the 37th parallel, north latitude, about one mile east of Osier station on the line of the Denver and Rio Grande Railway Company's railroad, and found said astronomical monument No. 6, and fully identified the same by the original field notes.

[fol. 955] Field-notes

Thence I ran west as determined by solar observations and observations on Polaris, Va. 14 20′ E., offsetting from tangent to parallel at their proper places, and fully identified the original line and the following corners as marked and established by Ehud N. Darling:

182 mile Corner, found same in place, Va. 13 45′ E.
183 " " " " " " Va. 13 57′ E.
184 " " " " " "
185 " " " " " " Va. 13 30′ E.
186 " " " " " " Va. 13 54′ E.
187 " " N. M. " " "
188 " " " " " "
189 " " on side of bluff and not established.
190 " " in place.
191 " " fell in railroad cut and evidently had been destroyed. Both east and west of this, trees bore the old blazes, leaving no doubt as to the line. On this line, 33 feet east of the center of the Denver and Rio Grande railroad tract, set a spruce post 8 inches square, 6 feet long, 3 feet in ground, surrounded by mound of earth, with pits east and west. On the north face scribed Colo., on the south N. M., on east 191 M., on west 1901.
Thence west Va. 13 39′ E.
192 " " on Mt. slope. Impracticable to set.
193 Mile Post Found same on line but out of ground. Reset same and dug pits east and west. This corner is in a park 1,518 feet east of Chama River. Va. 13 45′ E.
194 Mile Post in place.
195 " " " "
196 " " " " This corner is near divide or watershed
[fol. 956] between the Chama and Little Chama rivers. Between the and the Little Chama is a steep and rough descent. I found no

corners between the 196 and 202 mile posts. The 202 was fully identified although rotted down. I replaced the post. This corner is 726 feet south of a line due west from M. P. 196. Evidently this jog occurred between mile posts 196 and 201. From 202 I ran east along a blazed line one mile, and through the bearings and topography as given in the original notes I relocated and re-set mile post 201. From 201 I ran N. 88 25′ E. Va. 13 52′ E. five miles and connected with mile post 196, the nearest identified corner.

Continuing west from mile post 202,

203 M. P. In place, well rotted. I re-set same.
204 " " On side of sharp spur.
205 " " Not found and reset.
206 " " " " " "
207 " " In place.
208 " " " "
209 " " This corner was identified by the topography of the original notes and by bushes cut in the thick growth. Fire had swept over the place and the post had been burned.

Between this corner and the W. C. for mile post 214 nothing could be identified. The stone itself at W. C. 214 had been moved. The nest of stones remained and its location checked fully with the topography of the original notes, which topography was of such a character as to sufficiently identify it. Astronomical monument No. 7 had been destroyed. No trace of mile post 216 could be found. [fol. 957] Mile post 217 was in place. Astronomical monument No. 7 could be identified within a few feet from the bearings given in the original notes. But I have found that W. C. 214 was 2,865 feet north of a line west from mile post 209. Also that W. C. 214 was 647 feet south of a line east from the Gannett monument, which monument was set by the Government at the intersection of the 107° of Longitude with the 27th parallel of Latitude. The relative position of these lines is shown on the accompanying plat. Identifying mile post 209 and W. C. 214, and nothing between, I ran from W. C. 214 S. 83 25′ E. and connected with mile post 209 at W. C. 214. I set sandstone marked on the N. Colo., on the south N. M., on the E. W. C. 214, on the west 1901.

Thence ran west Va. 13 33′ E. 1,250 feet intersected line between secs. 23 and 24 T. 32 N., R. 4 W., N. M. P. M., at a point 30 feet south of a stone marked on south C. C., on E. 1, on north 4 notches.

1609.5 being the place for 214 mile, I had set a sand stone marked on the N. Colo., on the S. N. M., on the E. 214 M., on the west 1901.

Thence ran west, 1,793 feet and set stone marked on N. Colo., on S. N. M., on W. 1901, being 33 feet W. of center of R. R. track at Edith.

2,998.8 feet intersected line between secs. 22 and 23 of above township at a stone marked C. C. on the S., 2 on the east and 4 notches on the north.

5,280 feet; found no corner. Thence west one mile. I identified cor. No. 217.

[fol. 958] That I reached said mile post No. 217 on November 19, and owing to the inclement weather suspended further operations until the following summer of 1902, when a further examination of the remainder of said line from mile post 217 westward to astronomical monument No. 8 near Arboles, Colorado, disclosed the said Darling line as shown by the field notes easily visible upon the ground and the mile posts in place.

I accordingly append hereto a true, just and correct map and plat of said line as re-surveyed under my direction and authority in said premises which is especially made a part hereof, and showing the original line between the state of Colorado and the territory of New Mexico, as surveyed by Eliud N. Darling in the year 1868.

While said original survey of said Darling was inaccurate as shown by the said plat herewith, since the commencement of the resurvey by myself, the Government of the United States has authorized a resurvey of the true boundary line along the entire length thereof between this state and New Mexico, which re-establishment is in considerable part completed and which has already demonstrated the inaccuracy of the said Darling survey and establishes the true boundary line along the 37th parallel to be several hundred feet north of northern limit of the Darling line at all points between said Astronomical monument No. 6 and said Astronomical monument No. 8.

Charles A. Johnson, Commissioner.

[fol. 959] STATE OF COLORADO,
City and County of Denver ss:

Charles A. Johnson being first duly sworn, deposes and says that the foregoing report of the re-survey and re-establishment of the boundary line between the State of Colorado and the Territory of New Mexico between astronomical monuments numbered six (6) and eight (8) respectively, according to the original survey and establishment thereof by Eliud N. Darling, as shown by the field notes thereof, and the map and plat thereof hereto attached and marked Exhibit "A," is true, just and correct, according to his best knowledge and belief.

Charles A. Johnson.

STATE OF COLO.,
City & Co. of Denver, ss:

Subscribed and sworn to before me this 11th day of June, 1903.
Edwin Mitchell, Notary Public. My commission expires March 13, 1907. (Seal of Edwin Mitchell, Notary Public, City and County of Denver, Colorado.)

[fol. 960] Endorsed: Report of Re-survey of the Southern Boundary Line of the State of Colorado by Chas. A. Johnson, Commissioner. Filed in the office of the Secretary of State, of the State of Colorado, on the 12 day of June A. D. 1903, at 12.20 o'clock, P. M. James Cowie, Secretary of State. Timothy O'Connor, Deputy.

[Endorsed:] This furnished document was completed by L. Hensgen, Stenographer. Date: 2, '6, 1922. Compared by Hensgen & Casey.

(Here follows plat, marked side folio page 961.)

[fol. 962] PLAINTIFF'S EXHIBIT No. 6

1,020,792. "B." J. W.

Department of the Interior,
General Land Office,
Washington, January 14th, 1922.

I hereby certify that the annexed copy of the Field Notes of the Examination of Surveys of Colorado-New Mexico Boundary Line, is a true and literal exemplification from the original field notes on file in this office.

In testimony whereof I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

Geo. R. Wickham, Assistant Commissioner of the General Land Office. (Seal United States General Land Office.)

[fol. 963] Recd. with letter from F. M. Johnson, Exr., dated Aug. 29, 1903. 150,758/1903.

4—679a

Field-notes of the Examination of Surveys in Colorado-New Mexico Boundary Line executed by Howard B. Carpenter, U. S. Surveyor, under Contract No. —, dated —— —, 190-, as Examined by Frank M. Johnson, Examiner of Surveys.

Examination commenced July 8th, 1903.
Examination completed Aug. 7th, 1903.

[fol. 964] Names and Duties of Assistants

A. R. Teller, Chainman.
Chas. W. Beaman, Chainman.

Certificate

We hereby certify that we assisted Frank M. Johnson, special agent for the examination of surveys, in examining surveys of Colorado-New Mexico B'd'y Line, under contract No. —, as follows: All portions of S. B'd'y of Colorado reported herein, and that said examination has been, in all respects, to the best of our knowledge

PLAT SHOWING COLORADO AND NEW MEXICO LINE BETWEEN AST

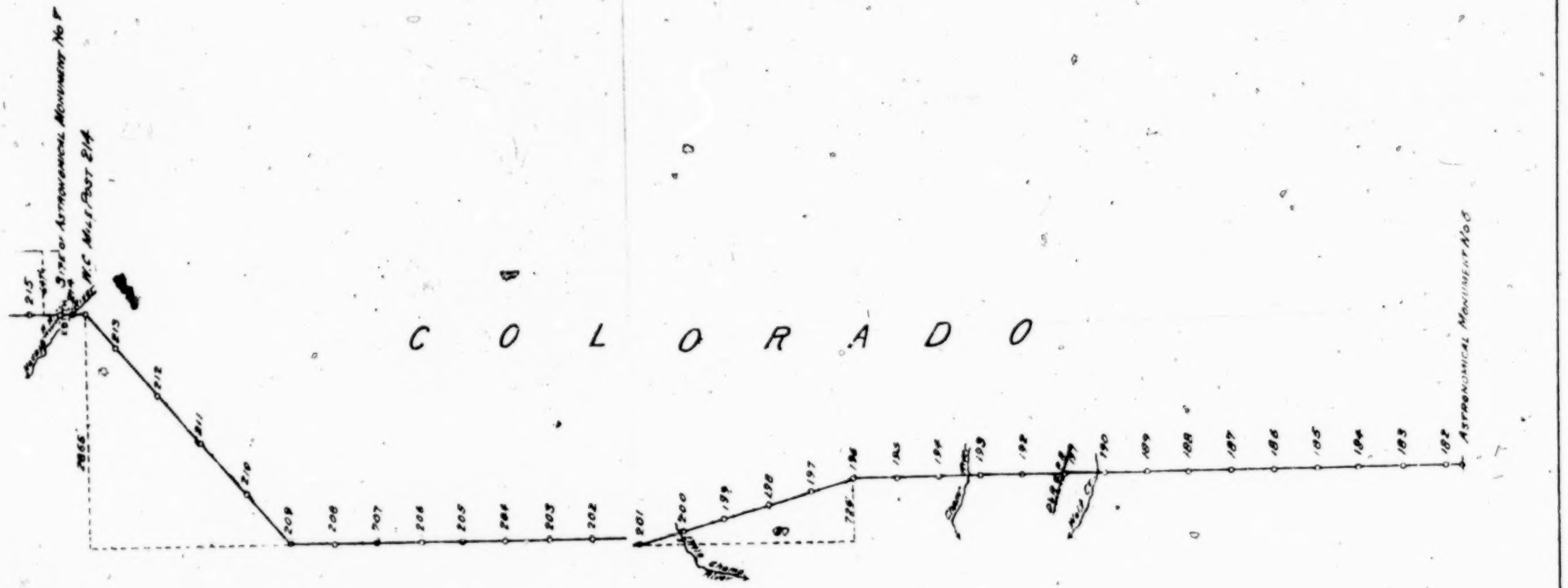
C

N E W M E X I C O

BLAIR BURWELL C.E.

INE BETWEEN ASTRONOMICAL STATIONS 6 AND 8

C O L O R A D O



SCALE 1 IN - 2 MILES.
VERT SCALE 1 IN - 1000 FT.

and belief, well and faithfully made, according to the instructions furnished by the Commissioner of the General Land Office.

A. R. Teller, Chainman. Charles W. Beaman, Chainman.

Subscribed and sworn to before me this 12th day of August, 1903. Frank M. Johnson, Examiner of Surveys.

[fol. 965] Examination of the Resurvey of the South Boundary of Colorado as Established by H. B. Carpenter

The examination survey began July 8th, 1903, and was executed with a Young and Son's light monument transit No. 7175.

The instrument was adjusted and placed in perfect adjustment before commencing the work.

The S. W. corner of the state of Kansas is a sandstone 8 ins. square and projecting 1 foot above ground, firmly set and marked 207 M. 10 ch. on N., K, 37° L. N. E. and C. on W. faces.

South 89° 57' W. of the S. W. cor. of Kansas 18.32 chs. dist. There is a limestone 16 x 9 x 8 ins. above ground, mkd. with 5 notches N. W. and 1 notch on east face, from which 3 old pits bear E., W., and South, also old mound, earth and stone S.

Returning to the S. W. cor. of Kansas I ran N. on the W. bdy. of Kansas. Over rolling prairie land.

15.22	Intersect old sandstone cor. mkd. K. on E. and C. on W. and what appears to be 18 on N. and 19 on E.	15.19
40.34	Intersect the S. E. cor. of Colorado established by H. B. Carpenter, U. S. Surveyor. This monument consists of a sandstone 12 x 12 ins. of dressed surface projecting 12 ins. above a mound of earth and stone, 6 ft. base 2 ft. high, set with its corners to the cardinal points mkd. Kan. on N. E. face " C. C. 1903 on S. E. " [fol. 966] " Okla. M. S. W. " mkd. Colo. on N. W. face.	40.36
36 x 36 x 18 6 ft. deep	Pits 24 x 24 x 18 ins. are situated N. S. and W. of monument 8 ft. dist.	

The bearings to natural objects furnished me are practically correct and are as I find them. Point of rocks bears N. 39° E. about 10 miles. Sand hill brs. S. 40° 2′ E. 19.50 chs. (measured) East edge of low sand bluff bears S. 1° 40′ E. about 10 chs.

July 8th at 4 P. M. l. m. t. I set off 37° N. on the lat. arc and 22° 33′ N. on dec'l arc and determine a meridian with the solar at the S. E. cor. of Colo.

July 9th at 12.24 a. m. l. m. t. I observe Polaris at eastern elongation in accordance with the requirement of the manuel.

July 9th at 8 a. m. l. m. t. I set off 37° N. on the lat. arc and 22° 29′ N. on the dec'l arc and determine a meridian with the Solar.

The meridians given by the solar practically agree with that determined by Polaris observations and I therefore concluded that the adjustments of the solar apparatus are satisfactory.

Thence from the S. E. cor. of Colorado previously described I run west on the S. bdy. of Colorado.

689° 58′ W.

Over rolling sand hills.

7.70 7.73 Fall .01 ch. S. of the 388th mile cor. which is an iron post 3 ins. diam. surmounted by a brass cap on which are raised letters Colo. on N. and Okla. on S. and 388 M. stamped in centre; post projects 8 ins. above a mound of earth 5 ft. base 1½ ft. high from which pits 36 x 36 x 18 ins. bear N. S. E. and W. about 6 ft. dist.

[fol. 967]

Land, rolling.

Soil, sandy.

Vegetation, grass.

Thence west on 388th mile.

Over rolling sand hills.

64.75 Old cattle trail bears N. W. and S. E. 67.00

70.00 Small gully brs. N. W. None in E.

80.03 Fall 2 lks S. of the 387th mile cor. which is an iron post similar to the one previously described, properly marked and witnessed by 4 pits 36 x 36 x 18 ins. N. S. E. and W. of cor.

Land rolling.

Soil sandy.

Vegetation grass.

NOTE.—This corner post I dug up for the purpose of examining its style. The post is an hollow pipe 3 ins. in diam. 4 ft. long, split and flared at the base so as to form 2 flanges running out 2 ins. from the pipe on two sides. The pipe is surmounted by a brass cap on which are the raised letters "Colo." on one side and "Okla." on the other. The number of the mile is stamped in the center. As all the posts are similar in design a detailed description of each one will be omitted and the words properly marked will be used.

July 9, 1903, 11 a. m.

July 9th (afternoon) spent in morning camp to the 376th mile cor.

July 10th, 1903, at 8 a. m. l. m. t. I set off 37° N. on the latitude arc and [fol. 968] 22° 21′ on the dec'l arc and determine a true meridian with the solar at the 376th mile corner, which is an iron post projecting 12 ins. above the ground (mound destroyed by cattle) properly mkd and stamped 376 M. and witnessed by 4 pits 36 x 36 x 18 ins. N. and S. E. and W. of corner.

Carpenter's notes state that the N. gable of Driscoll's ranch house bears S. 53° E. 55° E. I find the bearing to be S. 27° E.

Thence from the 376th mile cor. I run East on the 377th mile over nearly level sand flats gradually descending.

79.60
.40 Road bears N. W. and S. E.
38.29
31.71 Road bears N. 30° W. and S. 30° E.
47.10
32.90 Fence bears N. 60° W. and S. 60° E.
47.00
33.00 Road bears N. 60° W. and S. 60° E.
37.40
42.60 Enter marshy meadow bears N. and S.
20.00
60.00 West bank of Cimeron river course N. E.
10.70
69.30 East bank of Cimeron river across dry sand flat.

88.00	88.10	Fall 3 lks. N. of the witness cor. to the 377th mile cor. which is an iron post, properly mkd and set and stamped 377.1 M. projecting 6 ins. above mound of earth 5 ft. base 1 ft. high. Pits 36 x 36 x 18 ins. N. S. E. and W. of cor.
		Land gently sloping.
4" rate		Soil sandy 2nd rate.
		Vegetation, grass.
		Thence return to the 376 mile cor: previously described and run west on the 376th mile.
		Ascending gradually over rolling sand hills.
8.00	80.03	Fall 2 chs. N. of the 375th mile cor. which is an iron post properly set and mkd stamped 375 M in center, post pro-
[fol. 969]		jects 1 ft. above flat mound (partly destroyed by cattle) Pits 36 x 36 x 18 ins. N. S. E. and W. of cor
		Land rolling.
		Soil sandy, 2d rate.
		Vegetation, grass.
		After selling off, the proper declination I observe the sun on the meridian, the resulting latitude is 37° which is correct.
		Thence west on the 375th mile.
		Over rolling sand hills.
	51.08	Wire fence bears N. and S.
80.00	80.07	Fall 1 lk. S. of the 374th mile cor. which is an iron post properly mkd and set projecting 14 ins. above low mound of earth, stamped 374 M. Pits 36 x 36 x 18 ins. bear N. S. E. and W. 7 feet distant.
		Land rolling.
3d rate		Soil sandy 2d rate.
		Vegetation, grass.
		Thence west on the 374th mile
		Over rolling sand hills.
80.00	80.10	Fall 5 lks. N. of the 373d mile corner which is an iron post properly mkd and set projecting 18 ins. above low mound of earth and stamped in center of brass cap 373 M. Pits 36 x 36 x 18 ins. bear N. S. E. and W. 7 ft. distant.
		Land rolling.
3d rate		Soil sandy, 2d rate.
		Vegetation, grass.
		Thence west on 373d mile.
		Over rolling sand hills.

Ascending.

72.00 Summit of ridge bears N. and S.

Descend.

73.50 Base of slope bears N. and S.

80.00 80.02 Intersect 372d mile cor. which is an iron post 2 ft. above a low mound (partly destroyed by cattle) properly mkd. and stamped in center of brass cap 372 M. Pits 36x36x14 ins. bear N. S. E. and W. of cor. 6 ft. distant.

[fol. 970]

Land rolling.

3d rate Soil sandy 2d rate.

Vegetation, grass.

Thence west on 372d mile over rolling sand hills.

80.00 80.04 Fall 4 lks. N. of the 371st mile cor. which is an iron post 14 ins. above ground set in mound earth 4 ft. base 1 ft. high, properly set and mkd. Stamped in center 371 M. Pits 30x30x14 ins. deep bear N. S. E. and W. 6 ft. distant.

Land rolling.

3d rate Soil sandy 2d rate.

Vegetation grass.

Thence west on the 371st mile over rolling sand hills.

9.60 Intersect astronomical monument No. 8 of the Resurvey of the Colo. N. Mex. bd'y line. A sand-stone 12 ins. square 18 ins. above mound of earth and stone 8 ft. base, 4 ft. high. The monument is dressed about 14 ins. down from the top and is marked 37° N. L. on east 370.88 M. 1903 on west Colo. on North and Okla. on South. Pits 3 3x36x24 ins. bear N. S. E. and W.

From this monument I run S. and at 33.96 chs. find the iron pier at the 8th astron. sta.

Land rolling.

3d rate Soil sandy, 2d rate.

Vegetation grass.

[fol. 971] Measuring chain compared with standard and found correct

July 10, 1903.

July 11th move to the vicinity of the Okla.-N. Mex. corner on the S. bdy. of Colorado.

July 12th adjust transit with notes.

Rain in P. M.

July 13th at 12.00 a. m. l. m. t. I observe

Polaris at eastern elongation in accordance with the requirements of the manuel and mark the direction thus determined on a plug driven in the ground 5 chs. N. of my station.

At 7.30 a. m. l. m. t. I lay off the azimuth of Polaris 1° 32′ to the west and mark the meridian thus determined on a stone 5 chs. N. of my station.

At 7.40 a. m. l. m. t. I set off 37° N. on the lat. arc and 21° 58′ N. on the dec'l arc and determine a meridian with the solar. This meridian practically agrees with that determined by observations on Polaris.

The 332nd mile of the resurvey of the south boundary of Colorado is an iron post properly set and marked, projecting 6 ins. above a mound of stone 4 ft. base 1½ ft. high. No pits. Stamped in center 332 M.

Thence I run E. on S. bdy. of Colo. Over level mesa land and along S. side of canyon.

	22	Small Lin. N.
29.55	29.45	An old mound of stone 10 ft. in diam. 4 ft. high, surrounding a marked stone 10 ins. square, bears N. 1.34 chs.
[fol. 972]		Stone marked 1868. 103° W. L.
		NOTE.—This I believe to be the orignal Darling monument.
		Continue line E.
	39.60	Commence abrupt descent, bears N. W. and S. E..
40.00	42.60	Bottom of canyon, course N. W. Ascend.
	47.00	Small dr. N. W.
	50.00	Summit of E. edge of canyon; bears N. and S.
		Descend gradually.
68.00	66.80	Bottom of gulch; course S. ascend.
	80.00	Find no trace of mile corner. (Have no notes of line in this vicinity.)
		Land, rough and broken.
		Soil, lava formation 4th rate.
		Vegetation, scattering cedar and sage.
		Thence E. on the 334th mile.
		Ascending over rough broken surface.
	6.20	Summit of mesa, bears N. and S.
6.40	6.43	Fall 3 lks. N. of an iron post set in a
	8	mound of stone, 5 ft. base 3 ft. high,

	51.32	properly marked and stamped in center 333.08 M.	
N. 4½ E.	1.09	From corner a cedar tree 5 ins. in diam. bears N. 5° E. 110 lks. dist. m'k'd Colo. 333.08 M. B. T.	
S. 74½ E.	.74	A pinon 6 ins. in diam. bears S. 73° 20 E. 73 lks. dist. m'k'd Okla. 333.08 M. B. T.	
		No other trees are in limit.	
[fol. 973]		Descend over lava boulders.	
	31.00	Small dr. course N. E.	
	36.00	Base of slope; thence across open park.	
	60.00	Base of N. slope; thence along base of said slope to	
	80.06	Fall 2 lks. S. of the 334th mile monument, which is an iron post properly set and marked surrounded by a mound of stone 4 ft. base 3 ft. high. Post stamped in center 334 M. from which a X on a sandstone boulder 20x8x8 ft. bears S. 30° 45' W. 38 lks. dist. m'k'd 334 M. B. O. A X on sandstone boulder 16x16x16 ft. bears N. 6° 30' E. 204 lks. dist. m'k'd Colo. 334 M. B. O.	80.00 531 N. W. 56° 10 E.
		Land, rough and broken.	
		Soil, lava and sandstone formation; 4th rate.	
		Vegetation, pinon, cedar, sage and grass.	
		Thence E. on the 335th mile, gradually descending across open flat.	
	70.96	Fall 113 lks. S. of a dressed stone monument 12x12x20 ins. above ground, set in a mound of stone 3 ft. base 1½ ft. high and marked "Colo." on N., "C. M." on E. "N. E. cor. N. M." on S. and "C. C. 1900" on W. Pits 18x18x12 ins. bear N. S. and W. of mon. 6 ft. dist. Mound of earth and stone W.	71.00
		N. 0° 1' W. of this monument 14.01 chs. dist. is a sandstone shaft 14 ins. square 4 ft. high, firmly set and marked "Colorado" on N. "103 W. L." on S. "37 N. L." on E. and "1881" on W.	
[fol. 974]		Returning to my line at 70.96 chs. E. of the 334th mile mon. I continue E. over adobe flat.	

80.00	80.63	Fall 3 lks. N. of the 335th mile mon. which is an iron post firmly set in the ground and properly marked, stamped in the center "335 M." Pits 36x36x18 ins. bear N. S. E. and W. of corner, 7 ft. dist.
		NOTE.—Bearings given in the Carpenter notes and checked by me the next day, July 14, are practically correct and are as follows:
		N. edge of mound butte bears N. 63° 25' E. (Solar meridian) about 1 mile distant.
		Top of mound butte bears S. 89° 5' E. about 3 miles dist.
		Small conical crest of mesa bears S. 63° W. about 2 miles dist.
		Land, nearly level.
		Soil adobe 2nd rate.
		Vegetation grass.
		NOTE.—July 13 I set off the proper declination and observed the sun on the meridian. The resulting latitude is 37° + N. which is practically correct.
		Thence I run E. on the 336th mile.
		Descending gradually over adobe flat.
	26.00	Arroyo course S.
28.20	28.25	Road bears N. E. and S. W.
37.55	37.60	Wire fence bears N. and S. The cabin of David Collins bears S. 5° W. about 18 chs. dist.
		Ascend gradually.
6	55.80	Summit of ridge at low pass. Bears N. and S.
[fol. 975]		Descend into the valley of the Cariso river.
	74.00	Enter river bottom, bears N. and S.
	79.98	Fall 2 lks. N. of the 336th mile mon. which is an iron post properly marked and set in stone mound. Stamped in center "336 M."
		Note: The bearings given in the Carpenter notes are practically correct and are as follows:
		A conical butte bears N. 48° E. about a mile and a quarter dist. Wind mill tower bears S. 75° 30' E.
		Indian mound on summit of butte bears S. 68° 35' W. (Solar meridian) about 2 miles dist.
		Land, level and rolling.

Soil, adobe, 2nd rate.
Vegetation, grass.
From the 336th mile mon. the 337th and 338 mile mons. are plainly visible and are on the parallel.
Measuring chain compared with standard and found correct.

July 13, 1903.

July 14, 1903. Move camp to the vicinity of astron. monument No. 7. This monument is a sandstone shaft 12 ins. square, projecting 12 ins. above a mound stone, 7 ft. base, 2½ ft. high, marked "Colo." on N. "N. M." on S. "37 N. L." on E. and "325 M. 1903" on W. Pits 36x36x18 ins. bearing N., S., E. and W. of corner, 8 ft. dist.
This monument is at the mouth of [fol 976] Sheep Pen canon in the valley of the Cameron river and bears S. 76° 17′ W. 6.12 chs. dist. from astron. station No. 7.
The bearings from the monument given by the Carpenter notes are practically correct and are as follows:
A W. point of the Black mesa bears N. 32° 10′ E.
A cedar tree on lava mesa bears S. 54° 50′ E.
West end of red sand stone butte across the Cameron bears S. 8° 15′ E.
A conical butte capped with sandstone bears S. 27° 45′ W. about 2 miles distant.
July 14 at 2 P. M. I. m. t. I set off 37° N. on the lat. arc and 21° 47′ N. on the dec'l arc and determine a true meridian with the Solar at astron monument No. 8.
Thence I run W. on the 37th parallel on the 325th mile (Carpenter's survey).
Gradually descending over valley land.

No.	16.20	Dim road bears N. and S.
No.	38.00	Wire fence bears N. and S.
No.	74.00	Road bears N. W. and S. E.
80.00	80.09	Fall 2 lks S. of 324th mile corner, which is an iron post properly set and marked. Stamped in center "324 M." Pits 36x36x18 ins. bear N., S., E. and W. of corner 7 ft. dist.

Note: Too late to make accurate readings with the Solar to the natural objects recorded in the notes.

[fol. 977] July 15 at 12h 1m A. M. l. m. t. I observe Polaris at Eastern elongation in accordance with the requirements of the manuel and mark the direction thus determined by cutting a X on a stone 5 chs. N. of my station at the 324th mile monument.

At 2h 30m A. M. l. m. t. I lay off the azimuth of Polaris 1° 31' to the W. and mark the true meridian thus determined on a stake driven 5 chs. N. of my station.

At 8h A. M. l. m. t. I set of 37° N. on the lat. arc. and 21° 40½' N. on the dec t are and determine a meridian with the Solar. The test of the Solar apparatus is highly satisfactory and conclude that the instrument is in perfect adjustment.

Thence I run west on the 324th mile, having first tested the bearings given in the Carpenter notes to the natural objects in the vicinity. A boulder on top of butte bears N. 57° 15' E. something over one half mile dist.

E. point of sandstone butte across the river bears S. 37° 35' E.

The clump of cacti noted is not now visible.

Summit of large butte bears N. 32° W.

Gradually descending across open flat.

53.00 Small dr. course S.

69.70 Dr. course S. E.

79.75 Road bears N. and S.

79.82 Fall 6 lks. N. of 323*rd* mile cor. which [fol 978] is an iron post properly marked and set in mound of earth 3 ft. base 1 ft. high. Stamped in centre "323 M." Pits 36x36x18 ins. bear N., S., E. and W. 7 ft. dist. Top of butte bears N. 8° E. 1¼ miles dist.

Top of cliff across river bears S. 50° E.

E. edge of high cliff bears S. 12° 3' W. about 3 miles dist.

Land nearly level.

Soil adobe, 2nd rate.

Vegetation, grass and rabbitt brush.

Thence W. on the 323rd mile across level valley.

44 00 Leave valley, ascend Black mesa, bears N. W. and S. E.

Thence over series of cliffs and bad lands.

76 10 Fall 4 lks. N. of frac'l 322nd mile corner which is an iron post properly marked and firmly set in a mound of rock 3 ft. base 1½ ft. high and stamped in center 322.05 M.

Land level and broken.

Soil adobe and shale, 2nd and 4th rates.

Vegetation, grass and rabbit brush.

Note: Measuring chains tested with standard and found correct.

July 15, 1903.

July 16 at 8 A. M. I. m. t. I set off 37 N. on the lat. arc and 21° 31' N. on the dec'l arc and determine a meridian with the Solar at the 290th mile corner,
[fol. 979] which is an iron post properly marked and firmly set in a small mound of earth. Stamped in center "290 M." Pits 36x36x18 ins. bear N., S., E. and W. of corner, 7 ft. dist.

Thence I run W. on the 290th mile.

Over rolling surface.

25 30 Arroyo course S. W.

29 20 Small dr. course S.

80 11 Fall 6 lks. S. of 289th mile corner, which is an iron post firmly set in small mound and properly marked. Stamped in center "289 M." Pits 36x36x18 ins. bear N., S., E. and W. of corner 7 ft. dist.

Land rolling.

Soil, sandy, 3rd rate.

Vegetation, grass and oak brush.

Note: It is noted that all traces of the original Darling survey have been obliterated.

Thence W. on the 289th mile.

Over rolling surface.

18 00 Ascend over N. side of conical hill.

27 00 Summit of ascent slopes N.

30 00 Base of hill.

33 00 Begin descent of ravine, bears N. and S.

40 00 Bottom of ravine, course N., ascend.

42 00 Wedge of ravine bears N. and S.

Thence over undulating surface.

80 16 Fall 2 lks. S. of 288th mile corner which is an iron post firmly set in a mound of stone 3 ft. base 2 ft high. Stamped in center "288 M."

[fol. 980] Land shale formation surface undulating vegetation grass and pinon and cedar in ravines.

NOTE.—Move camp to the vicnity of astron. monument No. 6, July 16 at 11h 53m. P M. l. m. t. I observe Polaris at Eastern elongation in accordance with the requirements of the manuel and mark the direction thus determined on a plug driven in the ground 5 chs. N. of my station at astron. monument No. 6 July 17, 1903 at 7 h. 30 m. A. M. l. m. t I lay off, the azimuth 1° 32' to the W and permanently mark the true meridian thus determined.

At 8 A. M. l. m. t. I set off 37° N. on the lat. arc and 21° 21½' N. on the dec'l arc and determine a meridian with the Solar.

The meridians determined by Stellar and Solar observations practically coincide and I therefore conclude that the instrument is in perfect adjustment.

Astron. monument No. 6 is a basalt shaft 12 ins. square and projecting 18 ins. above a mound of earth and stone. Monument is dressed 12 ins. down from top and is marked "Colo." on N. 37° N. L. 1903" on the east, "N. M." on the S. and "274.158 M." on the W. Pits 36 x 36 x 18 ins. bear N. S. E. and W. of corner 8 ft. dist.

[fol. 981] NOTE.—Have not been supplied with the notes of this portion of the line so bearings to natural objects are omitted.

From astron monument No. 6 I run W. on the S. bdy of Colorado.

Over rolling surface.

12 64 Fall 5 lks. S. of the 274th mile corner which is an iron post firmly set in a mound of earth properly marked and stamped in center "274 M." Pits 36 x 36 x 18 ins. bear N. S. E. and W. of corner 7 ft. dist. 13 62

Land undulating.

Soil sandstone formation 3rd rate.

Vegetation grass and oak brush.
Thence from the 274th mile corner I run W.
Over rolling hills.

30.00 Begin ascent, bears N. and S.
39.00 Summit of ridge bears N. and S. descend.
50.20 Base of hill, road bears N. E. and S. W.
80.12 Fall 26 lks. S. of 273rd mile corner 80.00
which is an iron post firmly set in a mound of earth 5 ft. base 2 ft. high, properly marked and stamped in center 273 M.
Bearings to natural object are as follows:
E. point of the Spanish mountains bears N. 58° 30' W.
S. point of high mesa bears S. 80° W.
Land rolling.
[fol. 982] Soil sandstone formation, 3rd rate.
Vegetation, grass and oak brush.
From the 273rd mile corner I run W. over rolling surface.

10.00 Enter scattering oak brush, bears N. and S.
Continue over rolling and broken surface to
80.00 80.05 Fall 26 lks. S. of the 272nd mile corner, which is an iron post projecting 4 ins. above a mound of stone 4 ft., base 2 ft. high, properly marked and stamped in center "272 M."
Land rolling and broken.
Soil sandstone formation 3rd rate.
Vegetation grass and oak brush from the 272nd mile corner I run W. over rolling surface.

3.00 60.20 Road from Mexican placita to trinchro, bears N. 20° E. and S. 20° W. ascend.
6.00 Summit of small ridge bears N. and S. Descend.
12.00 Trail bears N. W. and S. E.
13.10 Arroyo course N. E.
13.00 Trail bears N. and S.
80.16 Fall 25 lks. S. of 271st mile corner, which is an iron post firmly set in a mound of stone 4 ft. base 2 ft. high properly marked and stamped in center "271 M."
Bearings to natural objects are as follows:
Volcanic cone bears S. 81° 47' E.
[fol. 983] Volcanic cone bears N. 81° 56' E.
Land rolling and broken.

Soil sandstone formation 3rd rate.
Vegetation grass and oak brush.
Measuring chain compared with standard and found correct.

July 17, 1903.

July 18. Heavy rain all day.

July 19. Moved to vicinity of 252nd mile corner Rain and Snow in afternoon.

July 20. At 8 a. m. l. m. t. I set off 37′ N. on the lat. arc and 20° 50′ N. on the dec'l arc and determine a meridian with the Solar at the 252nd mile corner (fractional) which is an iron post firmly set in a mound of stone 4 ft. base 1½ ft. high properly marked and stamped in center "252.2 M." from which a pine 20 ins. in diam. bears S. 52° 45′ E. 1 ch. dist. marked "252.2 M. N. M. B. T. A pine 20 ins. in diam. bears N. 36° 30′ E. 122 lks. dist. marked "252.2 M. Colo. B. T."

Thence from this corner I run W. over broken surface, descending.

3.25 Ravine course N. E. ascend.

14.00 Enter oak brush bears N. and S.

45.00 Summit of high ridge, bears N. W. and S. E. Descend.

21 lks.

[fol. 984] 60.00 Bottom of gulch course N. W. Ascend.

62.39 (copy) 62.60 Fall 20 lks S. of 251st mile corner (fractional) which is an iron post firmly set in a mound of stone 5 ft. base 2 ft. high, properly marked and stamped in center, "251.42 M."

Land rough and broken.
Soil shale 4th rate.
Vegetation pine and oak brush.

Thence from 251st mile corner (fractional) I run W. over rough surface through dense oak brush and timber.

69.60 69.56 Fall 19 lks. S. of the 250th mile corner (fractional) which is an iron post firmly set in a mound of stone 4 ft. base 2 ft. high properly marked and stamped in center "250.55 M." from which a pine 14 ins. in diam. bears S. 15° E. 31 lks. dist.

A pine 15 ins. in diam. bears S 48° 15′ W. 51 lks. dist.

A pine 18 ins. in diam. bears N. 79° W. 25 lks. dist.

A pine 16 ins. in diam. bears N. 7° 50′ E. 62 lks. dist.
All properly marked.
At noon I set off the proper declination on the arc and observe the sun on the meridian the resulting latitude is 37° which is practically correct.

July 20, 1903.

July 21. Move 10 miles en route to astron. mon. No. 5.
July 22. Move 6 miles to astron. mon. and camp.

[fol. 985] July 22. At 8:30 A. M. l. m. t. I set off 37° N. on the lat. arc and 20° 27′ N. on the decl. arc and determine a meridian with the solar at the 217th mile corner, which is an iron post firmly set in a mound of stone 5 ft. base 2 ft. high, properly marked and stamped in center "217 M." from which a pine 10 ins. in diam. bears N. 31° E. 134 lks. dist. N. 27 E. 125
A pine 14 ins. in diam. bears S. 49° 15′ E. 226 lks. dist. S. 25° E. 35°
A pine 16 ins. in diam. bears S. 25° 35′ W. 225 lks. dist. S. 15½ W.
A pine 17 ins. in diam. bears N. 35° W. 41 lks. dist. N. 36½ N. 20° W. 60
All properly marked.
Thence I run E. on the 218th mile descending through brush and pine timber.

14.00 Base of mountain bears N. E. and S. W.
15.00 Wagon trail from the Vermejo to the Las Animas crossing the San Francisco pass. 14.87
17.00 E. prong of the Vermejo course S. W. 17.68
19.03 Fall 7 lks. S. of astron. mon. No. 5, which is a limestone shaft 12 ins. square projecting 14 ins. above a mound of earth and stone 8 ft. base, 3 ft. high. Pits 36 x 36 x 18 ins. bear N. S. E. and W. of corner 8 ft. dist. Monument is dressed 12 ins. down from the top and is marked "Colo." on N. "37° N. L." on E. "N. M." on S. and "217.237 M., 1903" on W. 18.97
Bearings to natural objects are as follows:
Vermejo Peak bears S. 27° 25′ W.
[fol. 986] A rocky peak bears S. 76° 40′ W.

			Middle of three peaks of rock bears N. 60° W. about 1½ miles dist.
			Begin gradual ascent.
	26.	24.00	Small dr. course S. W.
		30.00	Leave valley and begin sharp ascent of mountain.
	66.32	63.00	Summit of spur, slopes N. W.
			Descend into gulch.
	79.54	74.20	Bottom of gulch, course N. W.
			Ascend.
		79.70	Summit of main ridge bears N. W. and S. E.
	80.00	80.20	Fall 27 lks. N. of 218th mile corner, which is an iron post, firmly set in a mound of stone 4½ ft. base 2 ft. high, properly marked and stamped in center "218 M." from which a pine 12 ins. in diam. bears S. 38° 15′ E. 167 lks. dist. A pine 10 ins. in diam. bears S. 38° W. 205 lks. dist.
			Both properly marked.
			Land mountainous.
			Soil sandstone formation 3rd rate.
			Vegetation grass, pine and oak brush.
			Thence from the 218th mile corner I run E. on the 219th mile. Descending over broken surface, through scattering timber.
		23.60	Drain, course S.
		66.00	Begin sharp descent into ravine.
	75.60	74.00	Bottom of ravine, 600 ft. deep, brook course S. W. ascend.
		80.00	No corner set.
			Land mountainous.
			Soil, sandstone formation, 4th rate.
[fol. 987]			Vegetation, grass, pine and oak brush.
			Continue my line E. on 220th mile, ascending steep mountain side.
		24.12	Fall 32 lks. N. of 219th mile corner (fractional) which is an iron post firmly set in a mound of stone 3 ft. base 2 ft. high, properly marked and stamped in center "219.3 M." from which an aspen tree 8 ins. in diam. bears N. 16° 45′ E. 50 lks. dist.
			A pine tree 14 ins. in diam. bears S. 21° 35′ W. 229 lks. dist.
			An aspen tree 5 ins. in diam. bears N. 8° 20′ W. 50 lks. dist.
			All properly marked. Line from 219.3 M.

24.00

N. 15¼ 60
S. 21½
W. 228
N. 8¼
W. 51

	25.00	Summit of ridge bears N. E. and S. W. Descend.		
	65.00	Ravine, course S. Ascend.		
	72.00	Hillside dr. course S. W.		
	80.09	Fall 20 lks. N. of the 220th mile corner, which is an iron post firmly set in a mound of stone 4 ft. base 2 ft. high, properly marked and stamped in center "220 M." from which a pine 14 ins. in diam. bears N. 22° E. 168 lks. dist.	8.00	N. 26° E. 168
		An aspen 8 ins. in diam. bears S. 24° E. 48 lks. dist.		S. 24½ E. 48
		A pine 18 ins. in diam. bears S. 34° W. 48 dist.		S. 33½ W. 48
		An aspen 6 ins. in diam. bears N. 32° 15 W. 85 lks. dist.		N. 30 W. 87
		All properly mkd.		
		Land mountainous.		
		Soil, sandstone formation, 4th rate.		
		Vegetation, grass, pine and oak.		
[fol. 988]		NOTE.—Measuring chain compared with standard and found correct.		
		July 22, 1903.		
		July 23. Move 40 miles by trail.		
		July 24. Move 8 miles to 193rd mile corner.		
		At 10 a. m. l. m. t. I set off 37° N. on lat. arc and 20° 2′ N. on the dec'l arc and determine a meridian with the solar at the 193rd mile corner, which is an iron post firmly set in a mound of earth, 5 ft. base 2 ft. high, properly marked and stamped in center "193 M." Pits 36x36x18 ins. bear N. S. E. and W. of corner, 7 ft. dist.		
		Thence I run E. on the 194th mile over level mal pai desert.		
21.00	20.60	Road bears N. and S.		
29.15	29.60	As equi; course N. W.		
30.00	29.90	Fence bears N. W. and S. E. Enter cultivated land.		
	42.00	Cross fence bears N. E. and S. W.		
61.48	61.60	Adobe house on line.		
		Enter the Mexican plaza of Costillo.		
		Thence through series of corrals.		
74.00	73.70	The Rio Costillo, course N.		
80.00	80.14	Fall 14 lks. S. of the 194th mile corner, which is an iron post firmly set in a mound of earth 4 ft. base 2 ft. high, properly marked and stamped in-		

center "191 M." Pits 36x36x18 ins. bear N. S. E. and W. of corner, 6 ft. dist. from which a cottonwood tree 28 ins. in diam. bears S.

5.22 3.20 22° E. 320 lks. dist.
.78 2.82 A cottonwood tree 32 ins. in diam. bears N. 70° 30' E. 291 lks. dist. Both properly marked.

[fol. 989]

Bearings to objects are as follows:
Spire of Cathedral in Costillo, bears S. 5° 20' W. about 3/4 of a mile dist.
Land nearly level.
Soil lava formation 3rd rate.
Vegetation sage and grass.
Returning to the 193rd mile corner I set off the proper declination and observe the sun on the meridian. The resulting latitude is 32° N. which is correct.
Thence from the 193rd mile corner I run W. over level mal pai desert.

80.03 Fall 7 lks. N. of the 192nd mile corner, which is an iron post firmly set in a mound of earth 5 ft. base 2 ft. high, properly marked and stamped in center "192 M." Pits 36x36x18 ins. bear N. S. E. and W. of corner, 6 ft. dist. 8.09
Land level.
Soil lava formation 4th rate.
Vegetation, grass, greasewood and sage brush.
From 192nd mile corner I run W. over level mal pai desert.

NOTE.—Clouds obscure the summit of Sierra Blanca so no bearings can be taken.

Cathedral spire in Costello bears S. 61° 59' E.

67.00 Road bears N. E. and S. W.
80.02 Fall 8 lks. N. of the 191st mile corner, which is an iron post firmly set in mound of earth 5 ft. base 2 ft. high, properly marked and stamped in center "191 M." Pits 36x36x18 ins. bear N. S. E. and W. of corner 6 ft. dist.

[fol. 990]

Clouds hanging over mountain peak prevent accurate readings.
Cathedral spire in Costello not visible.
Land level.
Soil lava formation, 4th rate.

Vegetation, grass, sage brush and greese wood.

Thence from 191st mile corner I run E., gradually descending over mal pai desert.

80.60 80.61 Fail 8 lks. N. of the 190th mile corner, which is an iron post firmly set in a mound of earth 5 ft. base 2 ft. high properly marked and stamped in center "190 M." Pits 36x36x18 ins. bear N. S. E. and W. of corner 6 ft. dist.

Mountain peak somewhat obscured by clouds.

The following bearings are given to what I judge to be the peaks mentioned in the notes:

Sierra Blanca, bears N. 12° 33′ E.

Ute mountain, bears S. 42° W.

Chifolo Peak bears S. 18° 30′ W.

Land level.

Soil lava formation 4th rate.

Vegetation, grass, sage brush and greese wood.

In order to test the bearing of line run today, with reference to a Polaris meridian, I observe the star at eastern [fol. 991] elongation and mark the direction thus determined on a plug 5 chs. N. of my station at the 190th mile corner.

July 24, 1903.

July 25.—I lay off the azimuth of Polaris 1° 32′ to the W. and mark the true meridian. Then test my line between the 190th and the 192nd mile corners and find the results of yesterday's work satisfactory.

Move 20 miles to Antonito, Colo.

July 26.—Rain all day.

July 27 at 8 a. m. l. m. t. I set off 37° N. on the lat. arc and 19° 25′ on the decl arc and determine a meridian with the solar at astron. mon. No. 4, which is a white decomposed granite mon. 12 ins. square dressed 12 ins. down from the top firmly set in a mound of stone 6 ft. base 3 ft. high. Pits 36x36x18 ins. bear N. S. E. and W. 6 ft. dist. Monument is marked "Colo." on N., "37° N. L." on E., "N. Mex." on S. and "166.76 M. 1903" on W.

		Thence from monument 1 run E. Ascend lava bluff.
	2.00	Top of bluff.
		Thence over final pai desert.
9.22	19.22	Fall 4 lks. of the 167th mile corner, which is an iron post firmly set in a mound of stone 5 ft. base 2 ft. high, properly marked and stamped in center "167 M."
[fol. 992]		San Antonio mountain bears S. 0° 3' E.
		Land level.
		Soil lava formation.
		Vegetation, sage brush and greese wood.
		From the 167th mile corner I run E. over level nal pai desert.
63.45	57.80	Wagon trail bears N. and S.
	71.00	Small dr. course N.
80.00	79.98	Fall 7 lks. S. of 168th mile corner, which is an iron post firmly set in a mound of stone 5 ft. base 2 ft. high, properly marked and stamped in center "168 M."
		Land level.
		Soil lava formation 4th rate.
		Vegetation, sage brush and greesewood.
		From the 168th mile corner I run E. over level nal pai desert.
	20.00	Begin desert.
27.81	27.87	Center of track of D. and R. G. R. R. between Antonito and Santa Fe, bears N. and S.
		Ascend gradually.
	43.00	Summit of ascent bears N. and S.
		Thence over level desert.
80.00	80.04	Fall 8 lks. S. of the 169th mile corner, which is an iron post firmly set in mound of rock 5 ft. base 2 ft. high, properly marked and stamped in center "169 M."
		Water tank in Antonito bears N. 14° 30' W.
		Land rolling.
[fol. 993]		Soil lava formation 4th rate vegetation sage brush and greesewood.
		From the 169th mile corner I run E. over level nal pai desert.
	80.01	Fall 8 lks. of the 170th mile corner, which is an iron post firmly set in a mound of stone 5 ft. base 2 ft. high, properly marked and stamped in center "170 M."

Land level.
Soil lava formation, 4th rate.
Vegetation, sage brush and greasewood.

NOTE.—Measuring chain compared with standard and found correct.

July 27, 1903.

July 28. I set off the proper declination at the 150th mile corner (fractional) and observe the sun on the meridian. The result is lat. is 37° + N. which is practically correct.

At 1 h. 30 m. P. M. L. m. t. I set off 37° N. on the lat. arc and 10° 8' N. on the dec'l arc and determine a meridian with the Solar, at the 150th mile corner (fractional) which is an iron post firmly set in a mound of stone 5 ft. base 2 ft. high, properly marked and stamped in center "150 087 M." from which a Spruce tree 16 ins. in diam. bears N. 32° W. 56 lks. dist.

[fol. 394] A spruce 10 ins. in diam. bears S. 12° E.
311½ 83 82 lks. dist.
Both properly marked.
Thence I run W. over mountainous surface.

	1.60	Descend bluff 100 ft. high.
	1.20	Base of bluff.
130	4.35	Center of track of D. and R. G. R. R. bears N. W. and S. E.
	1.60	Descend over rock slide.
	12.60	Base of slide.
		Descend gradually.
	13.50	Small brook course S. W.
	26.60	Rio Los Pinos course S. E., ascend
	30.00	Top of bench.
	42.00	Enter aspens, bears N. and S.
87.60	87.28	Fall 2 lks. N. of the 149th mile corner, which is an iron post firmly set in a mound of rock 4 ft. base 2 ft high, properly marked and stamped in center "149 M." from which an aspen tree 5 ins. in diam. bears N. 70° E. 146 lks. dist.
N 74½ E.		An aspen 8 ins. in diam. bears S. 14° E.
114.75		80 lks. dist.
		An aspen 3 ins. in diam. bears S. 60
102 W		W. 80 lks dist.
		An aspen 4 ins. in diam. bears N. 51°

N. 51¼ W.-24 W. 24 lks. dist.
Land mountainous.
Soil volcanic formation, 3rd rate.
Vegetation, spruce pine and aspen.
From the 149th mile corner I run W. ascending through heavy timber on E. slope of the Conejos Range.
14.00 Summit of spur slopes N.
Continue on N. slope ascending
43.00 Dr. N.
[fol. 995] 80.16 Fall 6 lks. S. of the 148th mile corner, which is an iron post firmly set in a mound of stone 5 ft. base 2 ft. high properly marked and stamped in center, "148 M."
Land mountainous.
Soil sandstone and volcanic formation, 4th rate.
Vegetation, spruce pine and aspen.
July 28, 1903.

July 29 at 11 h. 2 m. P. M. l. m. t. I observe Polaris at eastern elongation at astron. mon. No. 3, which is a sandstone shaft 12 ins. square dressed 14 ins. down from the top and set in a mound of stone 5 ft. base 2 ft. high. Mon. is marked "Colo." on N. "37° N. L." on E. "N. Mex." on S. and "117.075 M. 7902" on W.

July 29, 1903.

July 30 at 7 h. 30 m. A. M. l. m. t. I lay off the azimuth of Polaris 1° 32′ to the W. and establish and mark a true meridian.
At 8 A. M. l. m. t. I set off 37° N. on the lat. arc and 18° 44′ N. on the dec'l arc and determine a meridian with the Solar.
The indication thus determined practically agrees with that determined by Stella observation and I therefore consider the instrument in perfect adjustment.
The following bearings to natural objects are given with reference to the true meridian.
[fol. 996] Summit of high bluff on S. side of Navajo cañon bears N. 75° 22′ E.
High smokestack on saw mill bears S. 79° 3′ E.

		Monument on small mesa bears S. 50° 38′ E.
		Corner of grist mill bears N. 24° 55′ E.
		Mes. from 117 M. 6 chs. W. topography.
		From astron. mon. No. 3 I run E. on the 118th mile, over level cultivated land.
9.91	10.00	Coyote creek, 20 lks. wide course S.
15.90	16.00	Lumber R. R. bears N. W. and S. E.
	25.20	Road through field bears N. and S.
36.80	36.85	Wagon road bears N. and S.
53.20	53.20	House on line.
54.70	57.00	Center of main street, town of Edith, bears N. E. and S. W.
		NOTE.—The larger portion of the town is S. of line.
58.30	58.20	Lumber R. R. bears N. E. and S. W.
	60.00	Descend into the valley of Navajo river, bears N. E. and S. W. Enter dense willows.
75.30	75.00	Navajo river, 1 ch. wide course S. E.
	80.00	No corner set. Continue in willows.
	86.20	Leave willows, ascend 30 ft. bank bears N. E. and S. W. Enter pine timber.
86.80	86.90	Flume course S. W.
87.00	87.00	Wagon road from Edith to Lumberton, N. M.
88.00	88.24	Fall 2 lks. N. of the 118th mile corner (fractional) which is an iron post firmly set in a mound of stone 5 ft. base 2 ft. high properly marked and stamped in center "118.1 M." from which a pine 12 ins. in diam. bears S. 60° 33′ E.
[fol. 997]		250 lks. dist. marked "N. M. 118.1 M. B. T."
		Land, level river valley.
		Soil, sandy loam, 1st rate.
		Vegetation, grass, willow and pine.
		Thence from 118.0 mile corner I run E. on the 119th mile, ascending over rough mountainous country.
	57.50	Summit of spur sloping N.
	72.00	Dr. course N. E.
		Thence along steep N. slope
	72.20	Fall 4 lks. N. of the 119th mile corner which is an iron post firmly set in a mound of stone 4 ft. base 2 ft. high. properly marked and stamped in center "119 M."

72.00

Land mountainous.
Soil sandy 3rd rate.
Vegetation, pine and oak brush.
Thence from 119th mile corner, I run E. on the 120th mile, descending over rough mountainous surface.

16.00 Small Dr. N.
40.00 Bottom of cañon, course N. W. 39
40.20 Brook course N. W.
41.00 Lumber road, bears N. W. and S. E. 40 50
Ascend E. wall of cañon.
89.18 Fall 1 lk. S. of the 120th mile corner, which is an iron post firmly set in a mound of earth 4 ft. base 1½ ft. high properly marked and stamped in center "120 M." Pits 36 x 36 x 18 ins. bear N. S. E. and W. of corner 6 ft. dist.
A pine 16 ins. in diam. bears N. 40° E. 65 lks. dist.

[fol. 998]

517° 40' E. 76 A pine tree 10 ins. in diam. bears S. 18° E. 73 lks. dist.
A pine tree 16 ins. in diam. bears
S. 55° W. 21 S. 34° 30' W. 90 lks. dist.
A pine tree 10 ins. in diam. bears
N. 35° W. 55 N. 35° W. 55 lks. dist.
All properly marked.
Land mountainous.
Soil sandy, 4th rate.
Vegetation, pine, spruce and aspen.
Measuring chains compared with standard and found correct.

July 30, 1903.

July 31 at 7 P. M. I. m. t. I set off 37° N. on the lat. arc and 18° 24' + N. on the decl. arc and determine a meridian with the solar at the 89th mile corner, which is an iron post found firmly set in a mound of earth 5 ft. base 2 ft. high, properly marked and stamped in the center, "89M." Pits 36 x 36 x 18 ins. bear N. S. E. and W. of corner 6 ft. dist.

Thence I run W. over mesa country, through sage brush and pinon.

29 66 20.00 Wagon road bears N. 20° W. and S. 20° E.
49.25 Road bears N. W. and S. E.
53.00 Edge of mesa, bears N. and S.
60.00 Leave timber, bears N. and S.

80.00 80.05 Fall 1 lks. N. of the 88th mile corner, which is an iron post firmly set in a mound of earth 5 ft. base, 2 ft. high, properly marked and stamped on the center "88 M." Pits 36 x 36 x 18 ins. bear N. & E. and W. of corner 6 ft. dist.

[fol. 999] Bearings to natural objects are as follows:

Cone shaped timbered peak bears N. 2° E.

E. end of bluff bears S. 18° 30' W.

High ridge bears N. 8° W.

Land, rolling.

Soil, adobe 3rd rate.

Vegetation, pinon, cedar, sage, brush and greasewood.

Returning to the 88th mile corner, I run E. through pinon and cedar timber.

11.50 Begin descent through timber.

20.00 Edge of arroyo, course S.

21.00 Darling's old astron. mon. No. 8 bears S. 32° 23' E. 10 chains dist.

NOTE.—This monument was evidently overlooked by Mr. Carpenter.

No further work done this day on line.

At camp I observe Polaris at eastern elongation in accordance with the requirements of the manual and establish a true meridian.

July 31, 1903.

August 1, at 8 A. M. I re-test the Solar apparatus by comparing its indications with the true meridian established last night. The result is highly satisfactory.

Tience from the 88th mile corner, described yesterday I run W. over rolling surface.

26.00 Small dr. S.

[fol. 1000] 28.00 Arroyo course S. W. ascend.

46.00 Top of ridge, bears N. and S. Descend.

75.00 Arroyo course S. E.

80.00 80.09 Fall 2 lks. N. of the 87th mile corner, which is an iron post firmly set in a mound of stone, 5 ft. base, 2 ft. high, properly marked and stamped in center "87 M." pits 36 x 36 x 18 ins. bear N. & E. and W. of corner 6 ft. dist.

Bearings to natural objects are as follows:
Timbered conical peak bears N. 13° 45' E. Tree on top of conical peak S. of San Juan river bears S. 38° 22' E.
E. end of high bluff bears S. 7° 30' W.
High ridge bears N. 81° 30' W.
Land rolling.
Soil adobe, 3rd rate.
Vegetation sage brush and greese wood.
Thence from the 87th mile corner I run W. over rolling surface.

28.20 Road bears N. W. and S. E. from Vallejo to Roscada.

72.50 73.00 Arroyo, course N.

80.00 80.04 Fall 3 lks. N. of the 86th mile corner, which is an iron post formerly set in a mound of stone 5 ft. base 2 ft. high, properly marked and stamped in center "86M."
Bearing to natural objects are as follows
Timbered conical peak bears N. 23° 45' E.
Tree on conical peak S. of San Juan river bears S. 48° 30' E.

[fol. 1001]

Point on bluff bears S. 23° 40' E.
Chimney in section house at Vallejo bears N. 0° 52' E.
Land rolling.
Soil, adobe, 3rd rate.
Vegetation, sage brush and greese wood.
At noon I set off the proper declination and observe the sun on the meridian at the 86th mile corner. The resulting lat. is 37° N. which is correct.
Measuring chain compared with standard and found correct.

August 1, 1903

August 3 at 8 a. m. l. m. t. I set off 37° N. on the lat. arc and 17° 44' N. on the decl. arc and determine a true meridian with the Solar, at the 65th mile corner (fractional) which is an iron post firmly set in a mound of stone, 4 ft. base 2 ft. high. Properly marked and stamped in center "64.288 M."
Thence I run W. over river valley.

4.60 Fence, some cultivated fields bears N. and S.

4.10 Road from Durango to Farmington, bears N. and S.

8.35 Irrigation ditch, course S. E.

10.00 Begin ascent of steep rocky hill.

13.08 Fall 2 lks. S. of the astron. mon. No. 2, which is a sandstone shaft 18 x 12 ins. and projecting 20 ins. above mound of rock, 6 ft. base 2½ ft. high and marked "Colo." on N. "37 N. L. 1902" on E., "N. Mex." on S. and "64.823 M." on W. A pinon tree 8 ins. in diam. bears S. 65° W. 100 lks. dist. marked "N. M. 64.823 M., B. T."

[fol. 1002]

A pinon 8 ins. in diam. bears N. 25° W. 76 lks. dist. marked "Colo. 64.823 M., B. T."

Bearings to natural objects are as follows:

Point of bluff across the Rio Los Anamys bears S. 80° E.

Point of bluff down the river bears S. 7° W. E.

Continue my line ascending.

14.10 Top of bench bears N. and S.

37.40 Ascend bluff, bears N. and S.

68.00 Summit of ridge bears N. and S.

71.60 Dry gulch, course N. E.

79.10 Fall 8 lks. N. of the 64th mile corner, which is an iron post firmly set in a mound of stone 5 ft. base 2 ft. high, properly marked and stamped in the center "64 M."

A cedar tree 14 ins. in diam. bears S. 53° W. 65 lks. dist. marked "N. M. 64 M., B. T."

A cedar tree 8 ins in diam. bears N. 47° W., 80 lks. dist. marked "Colo. 64 M. B. T."

Land, rough and broken.

Soil, sandstone formation, 3rd rate.

Vegetation, cedar and pinon.

Thence from 64th mile corner I run W. over rough mountainous surface, ascending.

10.00 Summit of ridge bears N. and S.

79.50 Descend rock cliff, bears N. W. and S. E.

[fol. 1003]

80.22 Fall 3 lks. N. of the 63rd mile corner which is an iron post firmly set in a mound of stone, 6 ft. base, 3 ft. high, 8.00

properly marked and stamped in center "63 M."

Land, rough and broken.
Soil, sandstone formation, 4th rate.
Vegetation, pinon and cedar.
Measuring chain compared with standard and found correct.

August 3, 1903.

August 4. Return to Durango, Colo.
August 5. Remove to Mancos, Colo.
August 6, at 8 a. m. l. m. t. I set off 37° N. on the lat. arc and 16° 37' N. on the decl. arc and determine a true meridian with the Solar, at the 25th mile corner, which is an iron post firmly set in a mound of stone 5 ft. base, 2 ft. high, properly marked and stamped in center "25 M."

A pinon tree 8 ins. in diam. bears S. 53° W. 87 lks. dist. marked "N. M. 25 M., B. T."

Thence from corner I run E. on the 26th mile, over level mesa land.

	6.20	Small canon drains N. E. ascend.
	12.00	Summit of rocky ridge bears N. and S.
[fol. 1004]	39.70	Gulch, drains N. E.
	60.50	Summit of steep ridge bears N. and S.
		Thence over rough and broken ground.
	70.00	Descend rock ledge, bears N. and S.
73.00	73.19	Fall 2 lks. N. of the 26th mile corner (fractional) which is an iron post firmly set in a mound of rock 5 ft. base 2 ft. high, properly marked and stamped "25.912 M."

6.00

NOTE.—Corner stands on W. wall of canon.

Land, high mesa cut by canons.
Soil sandy, 4th rate.
Vegetation, dwarfed pinon and sage brush.

From 26th mile corner (fractional) I run E. over high mesa country.

	1.00	Descend wall of canon, bears N. E. and S. W.
	25.00	Bottom of canon, course N. E. ascend.
32.00	33.00	Top of wall bears N. E. and S. W.
		Thence over level sandy desert.

	55.00	Begin descent into canon, bears E. and S. W.	
	68.00	Base of canon, course N. E.	
88 20	88.50	Fall 4 lks. S. of 27th mile corner (fractional) which is an iron post firmly set in a mound of stone 6 ft. base $2\frac{1}{2}$ ft. high, properly marked and stamped in center "27.015 M"	
		Land, high mesa.	
		Soil sandy, 4th rate.	
		Vegetation, pinon and sage brush.	
fol. 1005]		Thence from 27th mile corner (fractional) I run E. over high mesa land.	
	28.00	Gulch, course N. E. ascend.	29.00
	38.00	Summit of ridge bears N. and S. descend.	
	61.00	Begins descent of canon, bears N. and S.	
	79.00	Bottom of canon, course N. W. ascend.	
	92.00	Top of mesa, bears N. and S.	
	92.90	Fall 1 lks. N. of the 28th mile corner (fractional) which is an iron post firmly set in a mound of stone 6 ft. base $2\frac{1}{2}$ ft. high, properly marked and stamped in center "20.175 M."	92.80 28.175M.
		Land rough and broken.	
		Soil sandstone formation, 4th rate.	
		Vegetation, pinon, cedar and sage brush.	
		Thence from 28th mile corner (fractional) I run E. over broken mesa country, ascending.	
	15.00	Top of ridge, bears N. W. and S. E.	
	40.00	Bottom of canon, course N. W.	
11	80.11	Fall 5 lks. N. of the 29th mile corner which is an iron post firmly set in a mound of earth 5 ft. base 2 ft high, propedly marked and stamped in center "29 M." Pits 36 x 36 x 18 ins. bear N. S. E. and W. of corner, 6 ft. dist.	80.00
		Land rough and broken.	
		Soil rocky, 4th rate.	
		Vegetation, pinion and sage brush.	
		I test the levels and line of collimation	
fol. 1006]		of transit and find them correct.	
		In order to test the Solar apparatus, and compare its indications with the meridian determined by observation on Polaris, I proceed as follows: at 4 P. M. l. m. t. I set off 37° N. on the lat. arc and 16° 51′ N. on the dec'l arc and determine a meridian with the Solar.	
		At 10 h 31 m P. M. l. m. t. I observe	

Polaris at eastern elongation, and mark the true meridian on a plug 5 chs. N. of my station.

August 6, 1903.

August 7, 1903, at 8 a. m. l. m. t. I set off 37° N. on the lat. arc and 16° 40′ N. on the decl arc and determine a meridian with the Solar.

The Solar meridians determined by a. m. and P. M. observations, practically coincide with the meridian determined by observations of Polaris. I consider the instrument in perfect adjustment.

Thence from the 29th mile corner previously described I run E. over rough broken country.

	16.00	Top of ridge bears N. and S.
	22.00	Small dr. course S.
59.60	60.00	Descend canon wall, bears N. W. and S. E.
	77.00	Bottom of canon, course S. ascend.
112.62	112.75	Fall 2 lks. N. of the 30th mile corner (fractional) which is an iron post firmly set in a mound of stone 6 ft. base, 3 ft. high, properly marked and stamped in center "30.408 M.

[fol. 1007]

Ute peak bears N. 38° 20′ W.

Main mast of Ship Rock bears S. 41° 44′ W.

Land rough and broken.

Soil rocky, 4th rate.

Vegetation, pinon and sage brush.

August 7th, 1903.

Frank M. Johnson, Examiner of Surveys.

[fol. 1008]

Recommendation

The resurvey of the south boundary of Colorado by Mr. H. B. Carpenter U. S. Surveyor is in general an excellent piece of work.

The corner monuments are uniform in character and are substantially set. In every portion of the line examined pits were dug when practicable. In all other portions a conspicuous stone mound was constructed around the corner. All trees obtainable for bearing trees were used.

The small difference in measurement may be accounted for in the rough country by the different methods employed by Mr. Carpenter & myself.

The alinement of the western portion & the extreme eastern portion of the line closely approximates the parallel.

Between astro. mons. 4 & 6 the line seems to run considerably off parallel. To greatest difference in bearing according to Mr. Carpenter's & my findings is between the 204th mile & ast. mons. 5 & 6. I find the average bearing between ast. mons. 5 & 6 to be S. 89° 49' E. West from ast. mon. 5 the bearing is about S. 89° W. These bearings were tested several times. The tangent run by Mr. Carpenter bet. ast. mons. 5 & 6 is N. of the parallel or established line, & the cuttings west of astron. mon. 5 are considerably S. of the line.

It would seem that astron. mon. 5 is not on the parallel.

Mr. Carpenter's instrumental work appears to be excellent & the
[fol. 1009] work taken as a whole is of the highest order.

Frank M. Johnson, Examiner of Surveys.

[fol. 1010] Oath of Special Agent for the Examination of Surveys

I, Frank M. Johnson, special agent for the examination of surveys, do solemnly swear that, in pursuance of instructions received from the Commissioner of the General Land Office, bearing date the — day of ——, 190-, and the — day of ——, 190-, I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by said Commissioner, examined all those parts or portions of Colorado-New Mexico boundary line reported herein, —— Meridian, in the ——, surveyed by Howard B. Carpenter, U. S. Surveyor, under contract No. —, dated —— —, 190-, as are represented in the foregoing field notes as having been examined by me; and I do further solemnly swear that the foregoing are the true field notes of such examination.

Frank M. Johnson, Examiner of Surveys.

Subscribed and sworn to before me this 29th day of August, 1903. Chas. J. Hunsaker. My Com. expires May 6, 1906.

[fol. 1011] PLAINTIFF'S EXHIBIT No. 7

E. 34459-150758, 1903. 14079-16659, 1904.

Ans'd March 3, 1904. 421.82.

Department of the Interior,
General Land Office,
Washington, D. C., February 25, 1904.

Subject: Acceptance of Resurvey

H. B Carpenter, U. S. Surveyor, Cheyenne, Wyoming.

SIR: I am in receipt of your letters of the 18th and 20th of January, 1904, transmitting returns of the resurvey of the south

boundary of Colorado, consisting of three books of field notes and eleven diagrams in triplicate, numbered as plates 1 to 11 inclusive.

I am also in receipt of the report and astronomical notes of Arthur D. Kidder, Examiner of Surveys, detailed to inspect the astronomical work on this line, who accompanied Astronomer MacConnel while the latter was engaged under your direction in making the required observations for latitude.

I have also received the report of Frank M. Johnson, Examiner of Surveys, who inspected various portions of the boundary line as to whether the re-establishment of the said line conformed to the requirements of the contract and the special instructions in respect to sufficiency of markings and accuracy of measurement and alinement.

Examiner Kidder concludes his report upon the astronomical [fol. 1012] features of the resurvey as follows:

"I therefore believe that the determinations have been well made and in accordance with Mr. Carpenter's special instructions and knowing that the observations were faithfully and honestly executed I respectfully recommend the acceptance of this part of the work."

Examiner Johnson made a thorough and exhaustive inspection of the field work of the resurvey going over portions of every section of the line between astronomical monuments.

In a preliminary report to this office he stated that in retracing the boundary line between three of the eight astronomical monuments (Nos. 4, 5 and 6), he found the line, as re-established, to diverge several minutes from a true east and west line and, with a view to ascertaining whether an error existed in the astronomical work of locating the stations to which you closed your line, I directed Mr. Kidder to proceed to the above named stations, situated in the mountainous part of the line and re-determine the latitude. He reported that he found, after a careful re-observation, that the locations were correctly determined and that any divergence from a true east and west line must be due to the deviation of the plumb-line caused by the proximity of large mountain ranges. It is found that an accurate ascertainment of the amount of error to allow for the attractive force of large masses of earth, when making observations upon celestial bodies for the purposes of obtaining latitudes, involves elaborate experience with the pendulum at the various points where observations are taken. These experiments, however, were not contemplated in the establishment of this boundary and were not included in your special instructions, consequently the said deviation [fol. 1013] is not attributable to negligence on your part or that of the astronomer working for you.

Examiner Johnson sums up his report with the following remark:

"Mr. Carpenter's instrumental work appears to be excellent. The corner monuments are uniform in character and substantially set. The work taken as a whole is of the highest order.

After a careful scrutiny of the field notes and diagrams, and the report of the Examiners as above mentioned, I am of the opinion that the re-establishment of the south boundary of Colorado is in conformity with the terms of your contract and special instructions and is hereby accepted.

Very respectfully, W. A. Richards, Commissioner.

(Here follows Plaintiff's Exhibit No. 8, marked side folio page 1014.)

[fol. 1015] PLAINTIFF'S EXHIBIT No. 9

Report of an investigation in alleged overlaps along the Colorado-New Mexico State Boundary in Tps. 32 N., Rs. 1 and 4 W., and R. 1 E. N. M. P. M., Involving H. E. 010492, David Lohman et al.

Department of the Interior

General Land Office

Office of Assistant Supervisor of Surveys,

Santa Fe, N. M., November 20, 1916.

Mr. Frank M. Johnson, Supervisor of Surveys, Federal Building, Denver, Colorado.

SIR: Acting upon your instructions of August 30, and October 14, 1916, I have the honor to submit the following report of an investigation made by me, with your personal assistance on the ground, September 20th to October 4th and October 28th to November 4th, 1916, of alleged overlaps along the Colorado-New Mexico State Boundary in Townships 32 North, Ranges 1 and 4 West, and Range 1 East.

Your instructions for this investigation included, along with entirely complete data, a copy of the Honorable Commissioner's letter, "E" CGT, dated August 4, 1916, and also copy of the Commissioner's letter "E" CGT, dated October 10, 1916, addressed to you and requesting that this investigation develop information relative to the following items:

[fol. 1016] (1) The possibility of recovering and of restoring locally through T. 32 N., R. 1 W., the original State Boundary Survey as executed by E. N. Darling in 1868; this being the line upon which the subdivisional surveys were closed as of record.

(2) The existence or non-existence of the overlap reported by Mr. Gillett. In this connection it is recommended that an exhaustive search be made for authentic corners or other evidence of the original subdivisional surveys, both upon the Colorado and the New

Mexico sides of the line, as well as an examination of the evidence identified by the Mineral Inspector.

(3) If the existence of overlap is developed, its locus should be determined if possible.

(4) If the existence of overlap is established and the locus thereof is determinable, you will report the facts and submit recommendations for its elimination.

(5) If the existence of overlap is disproven, you will explain, if possible, the cause of the conflict between the claims of Archuleta and of Lohman, exhibiting by diagram the lands claimed and occupied by each, and further indicating upon said diagram the position of the lands to which they are entitled under their respective entries.

(6) You will interview the entrymen, Archuleta and Lohman, explaining the situation as revealed by your investigation, and will, if possible, effect an amicable adjustment of their controversy.

[fol. 1017] It is considered most practicable to make this report largely in the form of maps and plats showing conditions on the ground, as determined by actual retracements and verifications, accompanied by brief discussions on the above items 1 to 6, as called for by the Honorable Commissioner; also, to include valuable records of the former retracement of the E. N. Darling State Boundary Line made by Mr. Frank M. Johnson, Examiner of Surveys, in the years 1900 and 1901, also copies of retracements reported by Surveyor Blair Burwell from the sixth to the eighth Darling Astronomical Monuments, dated June, 1903, such maps and plats being as follows:

(a) Copies of the official G. L. O. plats of Fractional Townships 32 North, Ranges 1 and 4 West, and 1 East, both in the Colorado and New Mexico Surveys.

(b) Plats showing entries and patented lands in Tps. 32 North Ranges 1 E. and 1 West, both in Colorado and New Mexico, supplied from the official records.

(c) Plat showing the Darling and the Carpenter State Boundary positions and the related overlapping Colorado and New Mexico Township surveys in Tps. 32 North, Ranges 1 W. and 1 E.

(d) Plat showing the Darling and the Carpenter State Boundary positions and the related overlapping Colorado and New Mexico Township surveys in Tps. 32 North, Range 4 West.

In this examination care was taken to completely identify on the ground the official township surveys as executed on both sides of the state line, both in Colorado and New Mexico in the areas examined and herein reported, viz:

[fol. 1018] In Township 32 North, Ranges 1 and 4 West, and 1 East. It was found that these official township surveys are easily identified and well in evidence on the ground in both states, and in fact, that they appear to have been rather faithfully executed, except in the matter of erroneous closings on the old Darling State Line. These erroneous closings being no doubt largely due to the very erratic and poorly marked Darling line.

Plat "C" shows measurements of some of these township surveys as made in this investigation and also shows old corners which were completely identified. The original corner stones are in place as indicated at all of these corners, and the topography is faithfully recorded in the original field notes. Bearing trees are still existing at the closing corners of Sections 9 and 10, 11 and 12, and 12 and 7, Tp. 32 North, Range 1 West for New Mexico. Closing corners for Tp. 32 North, Range 4 West, Colorado, set by local surveyors were found in a few instances, notably the closing corner of Secs. 22 and 23, but in no instance were the original closing corners fully identified, and in fact, it is believed they were theoretical and were never set on the ground in Range 1 West and 1 East, however, a more ex-[fol. 1019] tensive search might develop some of these closing corners. However, as before stated, the subdivisional lines were faithfully executed except for the closing corners of Township 32 North, Ranges 1 West and 1 East, Colorado.

Careful meanders were made of topographic features along the Darling boundary location in the vicinity of the town of Edith, such as meanderings of the Navajo river and the limits of the Navajo valley, Cemetery hill, Spring creek, Beaver creek, and the intersections of official survey lines with Ewell canon, and these meanderings are shown accurately to scale on Plat "C." By comparing E. N. Darling's field notes with the natural features noted on this Plat "C" it will be noted that his line could not possibly have crossed the Navajo river and Cemetery ridge at any other point except very near the position noted on the plat.

The Carpenter State Line Survey is well monumented by iron posts, and is strongly in evidence on the ground. Its position is shown accurately to scale on Plat "C," also on Plat "D" in Range 4 West.

The E. N. Darling Boundary line is no longer much in evidence in any of the areas examined, the original corners having been destroyed. However, it is quite certain that the Darling line can be [fol. 1020] relocated on the ground very closely from the bearings he has given to natural objects and topographic features from his sixth to eighth astronomical monuments. The seventh astronomical monument can thus be located positively one hundred and ninety links East of the foot of Cemetery hill, shown on Plat "C," the topography given by Darling from his 213th to 217th Mile Corners fixes position of his line within very narrow limits, and corroborates the Seventh Astronomical Monument location at the east base of Cemetery hill.

The Darling 217th Mile Corner may be relocated very closely from topography on top of Meyer's ridge, directly west of the Seventh

Astronomical Monument. This 217th Mile Corner has been d
stroyed, but some old stakes, one about twenty feet long, are lyi
loose in the vicinity of the true position for this old corner, whic
is in a locality never yet visited by the lumberman. These old stak
were presumably set up at the old 217th Mile location, either by E
aminer Johnson or Surveyor Burwell in retracing the Darling lin
Faint choppings, about fifteen years old, can be traced west fro
these old stakes.

Darling's reported crossing of Ewell canon in Range 1 East and
West, is almost directly east from his Seventh Astronomical positio
at the base of Cemetery hill, and the direction of Ewell canon, a
[fol. 1021] shown on Plat "C" would seem to preclude the possibili
of his having crossed this canon, in an official way, anywhere excep
in the vicinity of the closing corner of the New Mexico Principa
Meridian, as noted in the New Mexico township surveys.

In this connection I wish to make a special mention and to mak
a part of this report, a report of the "Examination of the Colorado
New Mexico Boundary Line, by Frank M. Johnson, Examiner o
Surveys," in the years 1900 and 1901, and his letter of explanation a
the Commissioner of the General Land Office, dated September 12
1901. This extensive examination and report by Mr. Johnson, hav
ing been made fifteen years ago, while the old Darling survey wa
much more in evidence than at present, will be of great value in an
attempt to relocate the Darling line between astronomical monument
Nos. 6 and 8. Evidences of the line chopped out by Mr. Johnson i
his retracement of the old Darling position were found in Range
West, and Range 4 West, it is believed, and the numerous topo
graphic notations made by Mr. Johnson will serve to fix and to per
petuate the true Darling position. It will be noted that on his r
tracement westward from the Darling Astronomical Monument
Number 6, Mr. Johnson found positive evidence of the Darling lin
up to the 206 Mile Corner, that from this position westward to th
[fol. 1022] west side of the Navajo valley, very little authentic ev
dence of the Darling line was found. The small granite stone marke
STA NO 7, which Mr. Johnson discovered just west of the valley o
the Navajo river is still in place, and the topography noted by Mr
Johnson just before he reached this stone, Spring creek, the wago
road, the D. & R. G. Railway track, and the Navajo river, were re
traced in this examination and check up with the distances given by
Mr. Johnson. This stone is 30.23 chains south and 24.65 chains
west of the true position for the Darling Astronomical Monument
No. 7, at the east base of Cemetery hill, as shown in their true rela
tive positions on Plat "C."

A careful search was made for the Darling 206th Mile Corner
reported by Mr. Johnson, but conclusive evidence of its position
could not be made in this examination without extensive retracements
from more distant eastern locations, or perhaps from the Sixth Astro
nomical Monument. However, the true position for this 206th Mile
Corner can, no doubt, be relocated by measuring from definite loca
tions on the Darling line further east or from the Sixth Astronomical
Monument, and its location being thus fixed within narrow limits

the original bearing trees or stumps for this 206th Mile Corner, which Mr Johnson found in existence fifteen years ago, should permanently fix this Darling corner.

I was unable to find any evidences of the Blair Burwell relocation [fol. 1023] along the Darling line, except in the town of Edith or vicinity, he having set two sandstones, one at the east base of Cemetery hill, and the other 190 links east of Spring creek, just at the foot of the hill entering the Navajo valley or mesa, these locations and stones set by Burwell, are noted on Plat "C," and appear to be very nearly on the true Darling line, and also incidentally on the line of the New Mexico township closings.

Considering more specially Town. hip 32 North, Range 4 West, I found that the New Mexico subdivisions closed definitely on the Carpenter Boundary line, which is well monumented by iron posts, and that the Colorado subdivisions do overlap the New Mexico subdivisions to a point about 11.75 chains, which of course, would be a line about 11.75 chains south of the Carpenter Boundary position. The New Mexico closing corners in this range are in position, being a late survey, but no closing corners were found for the Colorado subdivisions in this brief examination, however, the Colorado subdivisions were retraced sufficiently to absolutely certainly establish the fact that they are well in evidence and faithfully executed, except for the fact that they appear to have crossed over and beyond the true Darling Boundary line about 3.75 chains. I measured south [fol. 1024] from the well identified corner of Sections 14, 15, 22 and 23, Tp. 32 N., R. 4 W., Colorado, the distance called for by the field notes as follows: At 19.60 chains, new public highway, runs east and west; at 20.13 chains, a sandstone for Indian allotment corner; at 29.00 chains, irrigation ditch, 10 lks. wide, course west; at 30.45 chains, center of D. & R. G. Railway track, course E. and W.; at 40.18 chains, temporary 1/4 sec. cor., a flag recently set by local surveyors; at 40.37 chains, a stake, marked 1/4 on N., set by local surveyors in the year 1911; 47.29 chs., wire fence, perfectly straight east and west, on the Carpenter Boundary survey, said fence having been constructed by Roque Gallegos, as the North boundary of his patented claim now in conflict and litigation with Indian allotment, James Baker, No. 72, now owned by Mr. W. T. Carr, of Pagosa Junction, Colo. Mr. Gallegos' claim is covered by entry 012188, New Mexico, and patent No. 29,505, dated September 9, 1912. Continuing my measurement south between Secs. 22 and 23, as above noted, from the cor. of Secs. 14, 15, 22 and 23, at 59.00 chs., the call of the original field notes, a pine stake marked 4 grooves on the west and 2 on east, recently set by local engineer for contestants in law; at 59.62 chs. an old stone in a mound of stone set by Surveyor Wingleworth for Indian allotments many years ago, 61.50 chs., edge of water, north bank of San Juan, course W. N. W.

[fol. 1025] Other subdivisional corners in Tp. 32 North, Range 4 West were visited and identified. The true relative positions of the Carpenter Boundary line, the Darling Boundary line position

and the township subdivisions, closing and overlapping in the townships from both sides is shown in Plat "D".

It would therefore appear that the Colorado subdivisions in Range 4 West extended about 3.70 chains south of the true Darling Boundary, inasmuch as they are about 11.70 chains south of the Carpenter position. This conclusion is reached theoretically. The Darling corner No. 243 was reported by Carpenter to be 8.00 chains south of his line. Examiner Johnson reports evidence of the 235 Mile Corner, and his notations of river crossings in Range 4 West indicate that he was about 8.00 chains of the Carpenter line, as indeed do also old choppings across this range in the San Juan river bottom which, residents in this vicinity attribute to Mr. Johnson's retracement, however, this position could be determined more definitely by complete retracements eastward from the Darling Seventh Astronomical Monument.

The following conclusions, therefore, may be drawn and stated in the order of items 1 to 6, as called for by the Commissioner's letter "E" CGT:

(1st) It would seem entirely possible and practicable to restore [fol. 1026] the E. N. Darling Boundary line through Range 1 West by projecting the line practically due east and west through the restored Seventh Astronomical position. West through the 217 Mile Corner and east to the New Mexico Principal Meridian at Ewell cañon. Such a reestablished line will follow very closely the New Mexico closing corners, three of which are in place and witnessed by bearing trees. This line would also be supported by the Blair Burwell reestablishments across the Navajo Valley.

The reestablishment of the Darling line through range 1 East New Mexico, will probably be somewhat theoretical. About the strongest position seems to be to extend this line across the range from the New Mexico Principal Meridian, at the Ewell cañon, crossing in a straight line about south 86° 20' East to the Darling corner No. 206, formerly identified by Examiner Frank M. Johnson.

The reestablishment of the Darling line through Range 4 West may be made very closely it is believed, by extending the line East from his 243 Mile Corner or his Eighth Astronomical Monument and his 235 Mile Corner, formerly identified by Examiner Johnson supported by the topography in range 4 West.

(2) The existence of overlaps is absolutely certain. In range 1 West, it is about 20.00 chains. In range 1 East the overlap is about 17.00 chains. In range 4 West the overlap is about 11.70 chains. See Plats "C" and "E".

[fol. 1027] (3) As to the locus or extent of these overlaps and theoretical closings, it seems certain that they exist all along the State Boundary line from the Sixth to the Eighth Darling Astronomical Monuments wherever closings have been attempted. It was noted in this examination that the Tierra Amarilla Grant owners have put in a substantial wire fence exactly on the Carpenter Boundary line. It will be noted that the Colorado subdivisional closings in

Range 1 East extend about 17.00 chains south of the Carpenter survey, and hence will be in conflict with the Grant holdings, as now fenced by them.

(4) The question of the elimination of these overlaps and conflicts as above established, and the adjustment of homestead and patent rights will be rather a difficult task, and yet if is one which will grow worse if delayed. Plats "B" show entries made and patent required from the subdivisional surveys in Township 32 North, Ranges 1 West and 1 East, both in Colorado and New Mexico, and by considering the areas of overlap shown on Plat "C", the extent of conflicts may be noted.

In range 4 West conditions are rather still worse. Indian allotments No. 87, Bob Richards, No. 88, Andy Cameron, No. 90, Ella Frost, No. 129, Isaac Eagle, No. 130, Amos Spring and No. 7 James Baker, in T. 32 N., R. 4 W. and T. 32 N., R. 5 W. have been [fol. 1028] made and patents granted in fee simple to these Indians, it appears from information furnished by Superintendent Walter G. West, of the Southern Ute Indian Reservation, all based upon the Colorado closings. From the New Mexico side patents have been granted to Roque Gallegos, Patent No. 290605; to Demetrio Madrid, Patent No. 32341; to Dario Sandoval, Patent No. 415829, these patents extending through sections 8, 9 and 10, and closing on the Carpenter line, and are in conflict with the aforenamed Indian allottments. Litigation is now in progress or has been previous to this investigation. By interviews with the contestants, I find that there is a disposition to stay proceedings until the Department of the Interior can take some action, or suggest some solution. The land under conflict in this range is valuable river bottom, and mostly under cultivation and irrigation.

In the first place it certainly is the duty of the Government to protect as far as possibe all valid patent and homestead rights acquired by settlers in good faith by the subdivisional lines in both states, regardless of any arbitrary state lines which may be adopted or revived, and it has been suggested that the granting of lieu selections might achieve this object.

But in order to avoid a continuation of these conflicting conditions, the following suggestions have been considered: That the first [fols. 1029 & 1030] and second tiers of sections closing on both sides of the State Boundary be withdrawn from entry, until a legal State Boundary line can be adopted and the township plats corrected to close on such a boundary. Also that all valid homestead and patent rights be adjusted by Metes and Bounds surveys in an equitable way or otherwise by lieu selections.

Very respectfully submitted, Alonzo E. Compton, Assistant Supervisor of Surveys. AEC/S.

[fol. 1031] PLAINTIFF'S EXHIBIT No. 10

1,025,565. "E." JAD.

4-207

Department of the Interior, C. T. D. B.
General Land Office,
Washington, February 8, 1922.

I hereby certify that the annexed photographic copy of the diagram showing overlap and conflicts along the Colorado and New Mexico State line in T. 32 N., R. 4 W., N. M. P. M., as developed by investigations made November, 1916, by A. E. Compton, Assistant Supervisor and F. M. Johnson, Supervisor, is a true and literal exemplification of the official diagram on file in this office.

In testimony whereof I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

Geo. S. Wickersham, Assistant Commissioner of the General Land Office. (Seal of United States General Land Office.)

(Here follows diagram, marked side folio page 1032.)

[fol. 1033] PLAINTIFF'S EXHIBIT No. 11

4-679

Field Notes of the Survey of the Resurvey and Restorati of that Portion of the Original Boundary Line Between Colorado and New Mexico, Embraced Between the 203rd M. Cor. and the 7th Astronomical Monument, as Surveyed by Ehud N. Darling, Surveyor and Astronomer, in the Year 1868

(Approved by Commissioner G. L. O. by His Letter "E," Dated July 6, 1918)

Executed by Wm. C. Perkins, U. S. Surveyor, under authority of Clay Tallman, Commissioner of the General Land Office, by his letter "650,446 'E,' C. G. T.," dated May 23, 1917, addressed to Supervisor of Surveys, Frank M. Johnson, in the capacity of U. S. Surveyor, under instructions dated April 27, 1917, issued by the United States Surveyor General to govern surveys included in Group No. 79, which were approved by the Commissioner of the General Land Office ——— ——, ———, 191–, Assignment Instructions dated July 17, 1917, issued by the Assistant Supervisor of Surveys for New Mexico.

Survey commenced Sept. 2, 1917.

Survey completed Nov. 13, 1917.

N. P. N. N. N.

(Here follows index diagram, marked side folio page 1033½.)

Plaintiff's
Exhibit No. 8

14

Diagram of
Frac. T. 32 N. R. 7 E.
to accompany
Cont. N° dated
with

Colorado & New Mexico bdy line
Note Close upon bdy. line surveyed by Carpenter in 1902-3 and not on any previous survey

Frac. T. 32 N. R. 6 E.
unsurveyed

Frac. T. 32 N. R. 7 E.
to be surveyed

Frac. T. 32 N. R. 8 E.
subdivided

T. 31 N. R. 7 E.
subdivided

19 20 21 22 23 24 25 30 31 32 33 34 35 36

N 0°3' W 7.00 | N 0°3' W 7.00 | N 0°2' W 7.00 | N 0°1' W 7.00 | N 0°1' W 7.00

North 78.21

S. 89° 57' W. 25.38

Close E bdy. upon Carpenter's bdy. line

Diagram of
Frac. T. 32 N. R. 7 E.
to accompany
Cont. N° dated 07
with

Scale 80 Chs = 1 inch
Note Black lines already run
Red lines to be run

previous survey

Frac. T. 32 N. R. 8 E.
subdivided.

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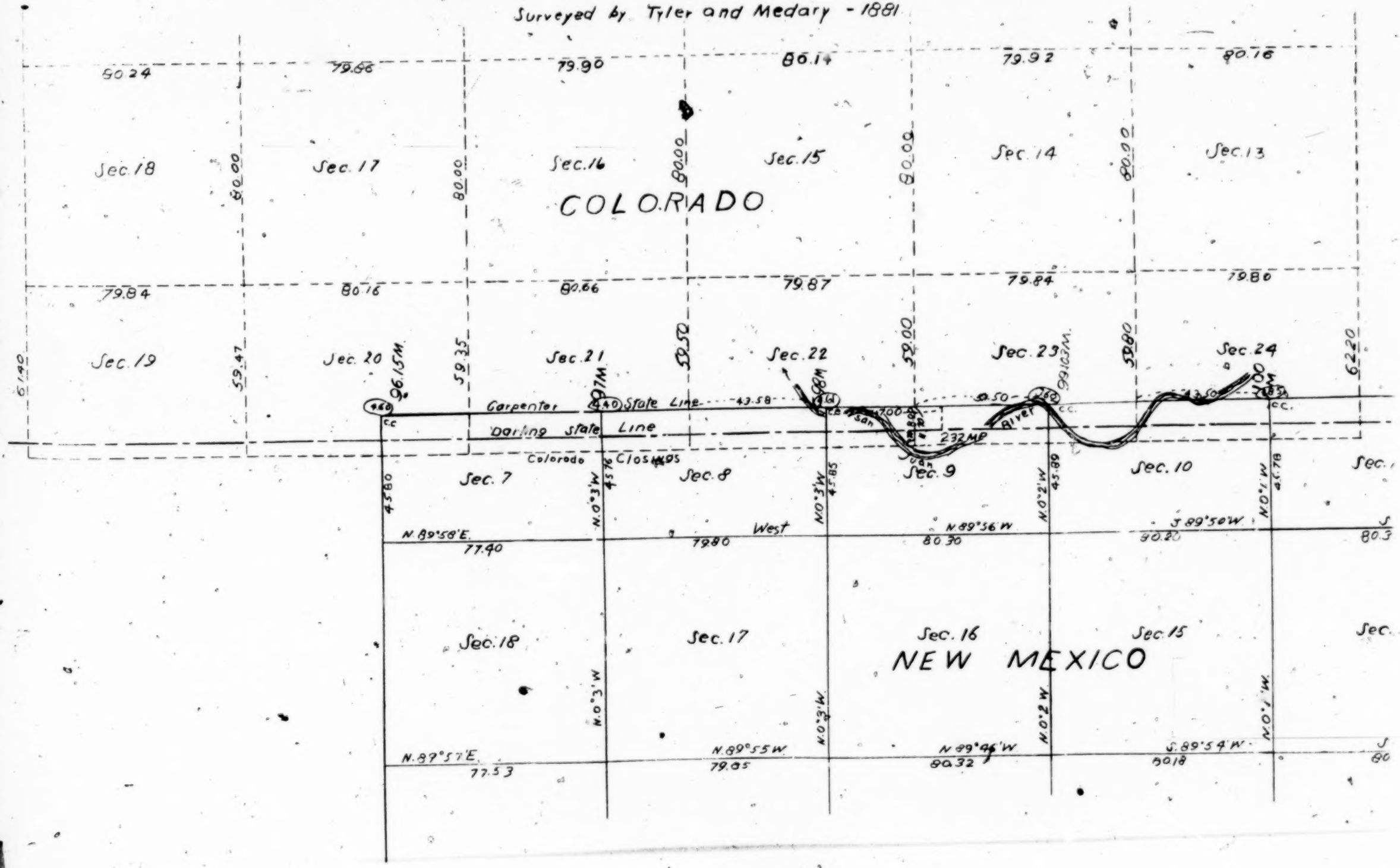
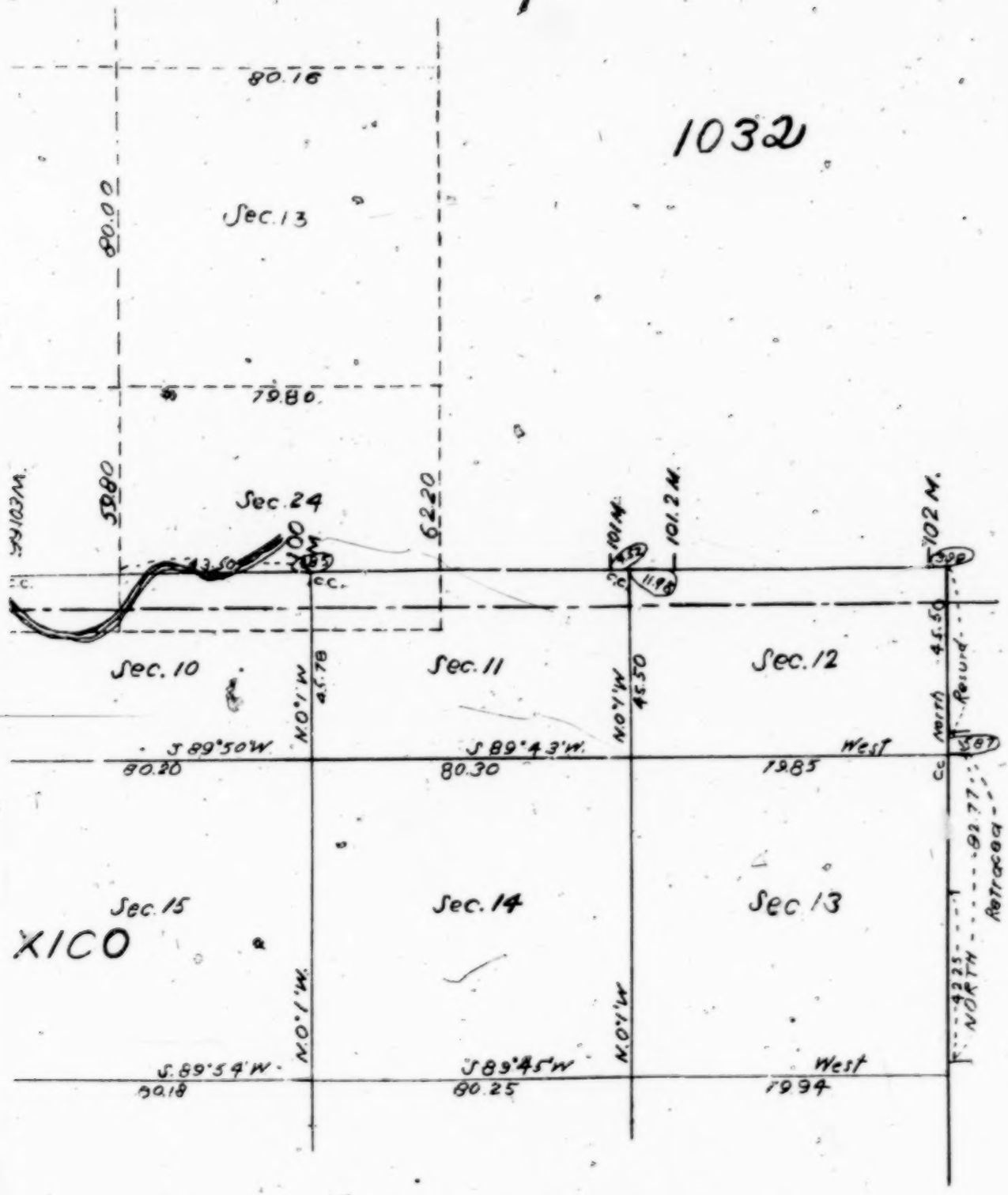
TOWNSHIP N°32 NORTH RANGE N°4 WEST OF THE NEW MEXICO PRINCIPAL MERIDIAN

Surveyed by Tyler and Medary - 1881



MERIDIAN

1032



ST OF THE NEW MEXICO PRINCIPAL MERIDIAN.

1033½

INDEX DIAGRAM.

Township ..... Range .....

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

[fol. 1034] In the execution of this survey the following references were at hand:

Chains

1. Copy of the Notes of the Original Survey made by Ehud N. Darling, in the year 1868.

2. Copy of the Report of Examination of the E. N. Darling Survey, made by Frank M. Johnson, Examiner of Surveys, in the year 1901.

3. Copy of the Report of Charles A. Johnson, Commissioner, who made a resurvey for the State of Colorado of this portion of the Darling Survey, in the years 1901 and 1902.

4. Copy of the Report of Examination made by Alonzo E. Compton, Assistant Supervisor of Surveys for New Mexico, in the year 1916.

These references were frequently consulted in order that no evidence of the original survey might be overlooked, and that all evidence might be fully considered.

Retracement of the Boundary Line Between Colorado and New Mexico from the 203rd to the 299th M. Cor.

I begin at the 206th mile cor., described in the following notes.

Thence East, retracing the 206th mile.

80.00 Find no evidence of the 205th mile cor.
Set temp. stake.

East, retracing the 205th mile.

80.00 Find no evidence of the 204th mile corner.
Set temp. stake.

East, retracing the 204th mile.

79.17 Fail 8 lks. N. of the point for the 203rd mile corner, described in the following notes.

I now return to the 206th mile corner. From a temp.
[fol. 1034a] stake which is 11 lks. S. and 3 lks. E. of the point for the 206th mile corner,

Thence, West retracing the 207th mile.

80.00 Find no evidence of the 207th mile cor.
Set temp. stake.

West, retracing the 208th mile.

80.00 Find no evidence of the 208th mile corner.
Set temp. stake.

West, retracing the 209th mile.

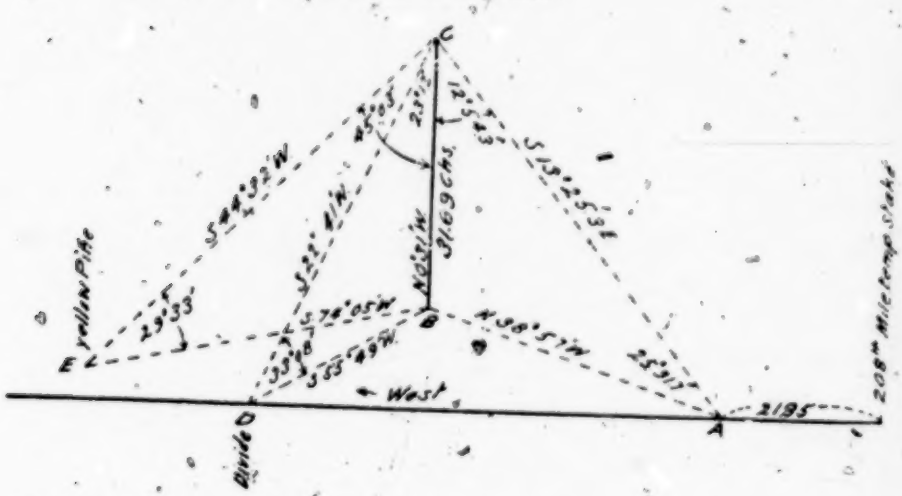
21.95 Establish a tall flag in dense oak brush, on steep N. slope of mesa. Then set a flag at S. end of Base Line in a large open area. This flag bears N. 38° 57′ W.

I now proceed to the S. end of the base line and run N. 0° 31′ W. 31.69 chs. on Base line, from which point the flag established on line at 21.95 chs. bears S. 13° 25.3′ E.

From the north end of the base line, a large yellow pine, standing at the edge of a high mesa, and only a few links north of line, bears S. 41° 32.0′ W.; and a flag on line on a low divide east of the mesa bears S. 22° 41′ W.

From the south end of the base line, the large yellow pine bears S. 74° 05′ W.; and the flag on line on the divide bears S. 55° 49′ W.

The north end of this base line is 9 lks. W. of a wire fence that has been built for the W. boundary of the Tierra Amarilla Grant. The South end of the base line is 3 lks. W. of the same wire fence.



[fol. 1035] Retracement of the Boundary Line Between Colorado and New Mexico from the 209th to 210th Mile Cor.

Solution of Triangle ABC

Chains

Log. 31.69	=	1.500922	
" sin. 12° 54.3′	=	9.348957	(plus)
	=	10.849879	
" sin. 25° 31.7′	=	9.634434	(—)
" of side AB	=	1.215445	Side AB = 16.423 chs.
" sin. 38° 57′	=	9.798403	(plus)
" of Departure AB	=	1.014033	

Chains

Departure of AB =

10.33 chs.

Distance to flag at A = 21.95 chs. from 208th mile cor.

Distance on line to point opposite B = 32.28 chs. from 208th mile cor.

Solution of Triangle BCD

Log 31.69 = 1.500922
" sin. 23° 12′ = 9.595432 (plus)

11.096354
" sin. 33° 08′ = 9.737661 (—)

" of side BD = 1.358693 Side BD = 22.84 chs.
" sin. 55° 49′ = 9.917548 (plus)

" of departure BD = 1.276241

Departure of BD

Distance on line to point opposite B 18.89 chs.
32.28 chs. from 208th M. Cor.

Distance on line to D 51.17 chs. from 208th M. Cor.

51.17 Low divide, bears N. 60° W. and S. 60° E.

Solution of Triangle BCE.

Log. of 31.69 = 1.500922
" sin. 45° 03′ = 9.849864 (plus)

11.350786
" sin. 29° 33′ = 9.693008 (—)

" of side BE = 1.657778 Side BE = 45.48 chs.
" sin. 74° 05′ = 9.983022 (plus)

" of departure BE = 1.640800

Departure of BE = 43.73 chs.
Distance on line to point oposite B = 32.28 chs. from 208th M. Cor.
Distance on line to point opposite tree = 76.01 chs. from 208th M. Cor.

Side AB N. 38° 57′ W. = 16.423 chs. Lat = 12.77 chs. N.
Side BE S. 74° 05′ W. = 45.48 chs. Lat = 12.47 chs. S.

Latitude of point E. 0.30 chs. N.

Colorado & New Mex. Boundary Line

Note Close upon Colo. "dy line established by Carpenter in 1903

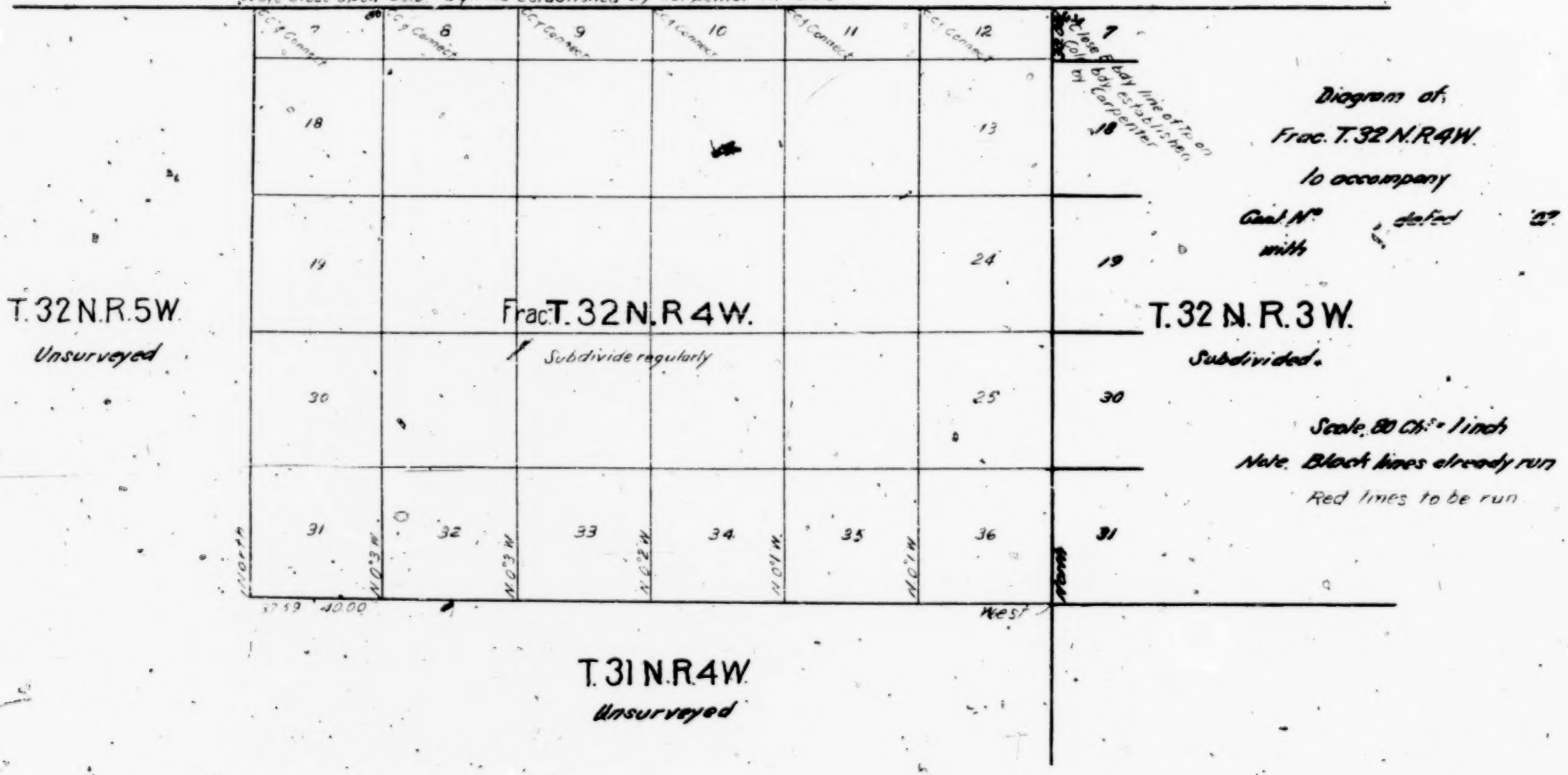


Diagram of Frac. T. 32 N. R 4 W. to accompany Coal No. dated 27 with

Scale. 80 Chs. = 1 inch

Note. Black lines already run

Red lines to be run

V

TOWNSHIP N° 32 NORTH RANGE N° 4 WEST OF THE NEW MEXICO PRINCIPAL MERIDIAN.

DIAGRAM
showing
Overlap and conflicts along the
Colorado & New Mexico State Line
in T. 32 N R 4 W. N. M. P. M.
as developed by investigations
made Nov. 1916 by A. E. Compton
Asst. Supervisor and F. M. Johnson Supervisor

Chains

I now proceed to top of finest, and at 30" yellow pine
76.01 bears N. 30 lks. I check this position of the line by back sighting at my flag and at other backsights. Thence I proceed by chaining.
80.00 Find no evidence of the 209th mile cor.
Set. temp. stake.

[fol. 1035a] Retracement of the Boundary Line Between Colorado and New Mexico from the 210th Mile Cor.

West, retracing the 210th mile.
4.76 At this point I clear an opening in an Aspen thicket and established a tall flag for a back sight.

To the west are two deep canyons, and a high sandstone ridge, over which it would be extremely difficult to chain. I therefore set a flag on line on a high ridge beyond the canyons. I proceed to this point and lay off a base line S. 22° 30.6' W. 12.91 chs. This is the longest base obtainable. I clear the base of oak brush and chain it very carefully. As the base line is on a nearly level ridge, and as each end is visible from the other end, I consider that this triangulation will be much more accurate than to have chained the line. I measure all angles with extreme care. Because of the short base line, I triangulate back to the flag at 4.76 chs. and to the 30 in. yellow pine tree noted at 76.01 chs. on the 209th mile.

From the north end of the base line, which is on line the 30 in. yellow pine tree bears N. 89° 42.5' E.; and the flag established at 4.76 chs. bears East. As there is a deep canyon just west of the base line, I set a flag on line beyond the canyon. This flag bears West.

From the south end of the base line, the 30 inch yellow pine tree bears N. 89° 10.2' E.; the flag at 4.76 chs. bears N. 79° 03.3' E. and the flag across the canyon to the west bears N. 62° 29.2' W.

[L. 1036] Retracement of the Boundary Line Between Colorado and New Mexico from the 210th to 212 Mile Cor.

Solution of Triangle ABD

Log. of 12.91	= 1.110926	
" sin. 57° 39.6'	= 9.926739	(plus)
	11.037725	
" sin. 9° 32.8'	= 9.219341	(—)
	= 1.818384	Side AD = 65.82 chs.
		3.99 (—)
Distance from 209th mile cor. to N. end. Base		= 61.83 chs.

Solution of Triangle ABC

Log. of 12.91	= 1.110926	
" sin. 56° 35.7'	= 9.924581	(plus)
	11.035507	
" sin. 10° 53.7'	= 9.276484	(—)
" of side AC	= 1.759023	Side AC = 57.02 chs.
		4.76 plus
Distance from 209th mile cor. to N. end Base		= 61.78 chs.
Distance computed from triangle ABD		= 61.83 chs.
the average of which is		as
61.80 Stake at N. end of base line, on ridge, which bears N. 20° E. and 8. 25 W.		

Solution of Triangle ABE

Log. of 12.91	= 1.110926	
" sin. 84° 59.8'	= 9.998342	(plus)
	11.109268	
" sin. 27° 30.8'	= 9.664599	(—)
" of side AE	= 1.444669	Side AE = 27.84 chs.
Distance from 209th mile cor. to N. end Base		= 61.80 chs.
Distance from 209th mile cor. to point E.		= 89.64 chs.

Therefore at

80.00 Point for 210th mile corner falls in canyon and was never set by Darling.

West, Retracing 211th Mile

9.64 Flag on west side of canyon. Thence by chaining

80.00 Find no evidence of the 211th mile cor.
Set temp. stake.

West, Retracing the 212th Mile

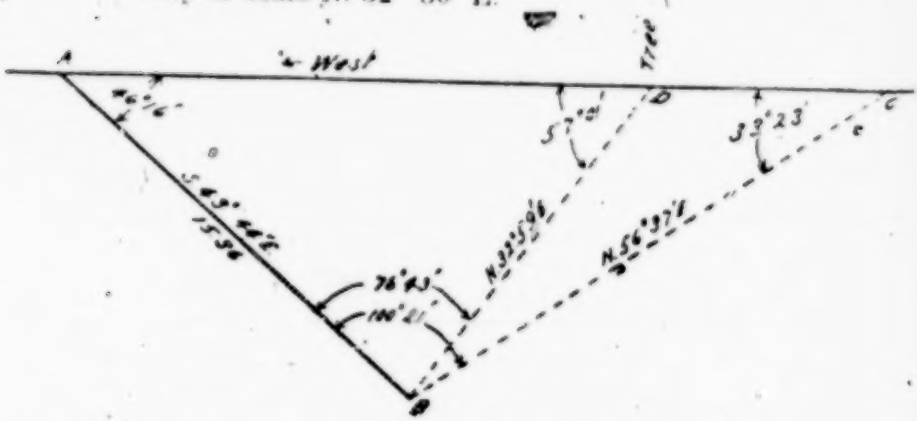
Chains

36.43 Set flag near top of right bluff overlooking Ewell Canyon. Up to this point there has been a very close agreement between the topography recorded in the original survey of this line, and the topography noted in this retracement.

From this point west to Astronomical Station No. 7, described in the following notes, there is no agreement whatever between the topography recorded in the original survey, and the topography noted in this retracement.

[fol. 1037] Retracement of the Boundary Line Between Colorado and New Mexico from the 212 Mile Cor. and West to Astronomical Mon. Sta. No. 7

There is no convenient place for a base line on the right bluff of Ewell Canyon. I therefore set a flag on line on left bluff of Ewell Canyon, and proceed to that point. Before laying off the base line, I set a flag on line near the bottom of Ewell Canyon, which is attached to a fir tree, 12 ins. in dia. From the flag on line on the left bluff of Ewell Canyon I lay off the base line, S. 43° 44' E. 15.36 chs., from which the flag on the right bluff bears N. 56° 37' E., and the flag attached to the fir tree in the canyon bears N. 32° 59' E.



Solution of Triangle ABC

Log. of 15.36	=	1.186391	
" sin. 100° 21'	=	9.992875	(plus) .
		11.179266	
" sin. 33° 23'	=	9.740550	(—)
" of side AC	=	1.438716	Side AC = 27.46 chs
Distance from 211 mile cor. to point C			= 36.43 chs.
Distance from 211 mile cor. to point A			= 63.89 chs.

Solution of Triangle ABD

Chains

Log of 15.36 = 1.186391
" sin. 76° 43′ = 9.988223 (plus)

11.174614
" sin. 37° 01′ = 9.923673 (—)

" of side AD = 1.250941 Side AD = 17.82 chs.

Distance from 211 mile cor. to point A = 63.89 chs.
Distance from point A back to point D = 17.82 chs.

Distance from 211 mile cor. to point D = 46.07 chs.

Therefore at

46.07 Fir tree, 12 ins. in dia. near bottom of Ewell Canyon.
From this tree I chain down to bottom of canyon.

[fol. 1038] Retracement of the Boundary Line Between Colorado and New Mexico from Astronomical Mon. No. 7, East to 214 Mile Cor.

59.24 Stream, 5 lks. wide, clear water, in bottom of Ewell Canyon, course N. 40° W.
From this point I return to
63.89 Flag on left bluff of Ewell Canyon Thence by chaining:
90.00 Set temp. 212 mile stake.
From the 212-mile stake
Thence West a distance of 2 miles 47.58 chs. and fall 76 lks. South of Astronomical Station No. 7, described in the following notes.
The topography noted on this retracement since leaving the 211 mile corner, does not agree in any respect with the topography recorded in the notes of the original survey.
From Astronomical Station No. 7.
Thence N. 35° 30′ E., 43.06 chs. and set a stake in the edge of a plowed field about 3.50 chs. East of east foot of cemetery ridge.
From this stake
Then N. 2° 48′ W. 6.82 chs. and intersect a stone monument described in the following notes, known as the Burwell Monument, on the east slope of Cemetery Hill.
From this stone Monument.
Thence East 259 lks. to a point 150 lks. East of foot of slope as given in Darling's notes, which is the true point for Astronomical Monument No. 7, described in the following notes. At which point I set a temp. stake.

Chains

From temp. stake at point for Astronomical Monument No. 7.

East retracing 215th mile.

25.30 Find no evidence of the 214th mile cor.
The topography agrees closely with the topography recorded in the notes of the original survey.
Set temp. stake.

[fol. 1039] Retracement of the Boundary Line Between Colorado and New Mexico from Astronomical Mon. No. 7, East to 215th Mile Cor.

East retracing 214th mile.

80.00 Find no evidence of the 213th mile cor. The topography agrees closely with the topography recorded in the notes of the original survey.
Set temp. stake.

East retracing 213th mile.

80.00 Find no evidence of the 212th mile cor.
Set temp. stake.
This point falls in Ewell Canyon, about 3 chs. up on the right slope of the canyon, and about 10 chs. W. on the line from top of right bluff of canyon.

As the topography on the retracement East from Astronomical Monument No. 7 agrees closely with the topography reported in the notes of the original survey for this part of the line, while the topography on the retracement running West from the temp. 211 mile cor. as far as Astronomical Station No. 7, does not agree with the notes of the original survey, I conclude that from Astronomical Monument No. 7 the original survey was run East as far as Ewell Canyon.

I now return to temp. stake as Astronomical Monument No. 7. Thence West retracing the 215th mile.
The topography agrees closely with the topography recorded in the notes of the original survey.

9.70 At this point, which is on top of Cemetery Hill, the notes of the original survey show that a base line was run in a northerly direction, the exact bearing not being given. From this base line triangulation was made to the top of Archuleta Mountain known in the original notes as Myers Ridge. I, therefore, run North, retracing this base line, and at 60 chs. find that a flag on the line, on top of the

mountain to the west would not be visible, as it would be behind a high, rocky promontory. This 60 ch. point falls
[fol 1040] on steep N. W. slope 8 ft. lower than top, from which the S. end of the base line, on Cemetery Hill is not visible.

Retracement of the Boundary Line Between Colorado and New Mexico from the 215th to 218th M. Cor.

Chains

Continue the retracement of the base line, and at 70 chs. fall on a steep W. slope about 30 ft. above a small valley. From this point the S. end of the base line on Cemetery Hill is not visible, and a flag on line on top of the mountain to the west would be hid behind the rocky promontory above mentioned.

I now return to the S. end of this base line and continue West on the retracement of the 215th mile.

54.70 Find no evidence of the 215th mile cor.
Set temp. stake.

West retracing the 216th mile.

80.00 Set temp. stake at 216th mile cor.

West, retracing the 217th mile.

80.00 This point falls 1.30 chs. East of the top of Archuleta Mountain, instead of 6 chs. West of the top, as reported in the notes of the original survey.

87.30 Set temp. stake for 217th mile cor., at a point 6 chs. West of the edge of bluff. Find no evidence of the original corner.

NOTE.—Owing to a discrepancy of over a mile in measurement between the original survey and this retracement in the distance from the 217th mile cor. to the Navajo River, I call all miles on this retracement west of the 217th mile cor. temp. miles.

Thence West, retracing the 218th temp. mile.

11.30 The notes of the original survey state that at this point there is a "high perpendicular cliff." I find only a gently rolling West slope, covered with heavy timber. There is no "high perpendicular cliff" on the west slope of this mountain within two miles.

After diligent search through the timber over the top
[fol 1041] of Archuleta Mountain find no blazes nor any other evidences of the line.

The notes of the original survey state that at this point a base line was run N. 10° E. to within 30 lks. of the N. end of the mountain, and S. 10° W. to within 30 lks. of the S. end of the mountain, and that triangulation was made to "a lone pine tree, standing near the West end of

a high mountain ridge, and cannot be mistaken for any other. The above named tree is five minutes North of line. This base line could not have been run S. 10° W. without running off on the west slope of the mountain. From the 14.30 ch. point no view to the west could have been obtained without first clearing an opening through the heavy timber. There are no old stumps, nor any signs of a cleared line in this vicinity.

Base Line on Archuleta Mountain.

To further verify the record contained in the original notes I go to the south end of Archuleta Mountain, which terminates in a high, sharp, barren point with nearly perpendicular walls on the E. S. and W. sides. At a point 50 lks. N. of the extreme S. end of the mountain is an old triangulation tower from which point:

Thence 1. N. 10° E. 51.90 chs. to a point on E. slope of mountain.

2. N. 10° W. 38.00 chs.

3. N. 10° E. 3.14 chs. to a point that is 5.45 chs. west of the temp. 217th mile stake.

To have followed the call of the original notes this line should have run N. 10° E. 90.00 chs. to a point 14.30 chs. W. of the 217th mile cor.

I now go to the north end of Archuleta Mountain, which I find to be a high, precipitous wall, extending more than a mile east and west, with a number of high sharp points. Only from the extreme northwest point of the mountain can a view to the west be obtained. The south end of the mountain is not visible from any point at the north end.

[fol. 1042] On the northwest point of the mountain, 20 lks. S. of the extreme N. edge, I trim up a fir tree, 3 ins. in dia. and attach a flag at the top, for a backsight. There is no evidence of any triangulation point ever having been here. From this flag, thence

Retracement of the Boundary Line Between Colorado and New Mexico from the 218th to 225th M. Cor.

1. East, 11.70 chs. along top of small ridge.

2. S. 50° 00′ E. 92.00 chs. across rolling top of mountain to a point about 6 chs. from E. edge of top.

3. S. 17° 00′ W. 69.00 chs. across rolling top of mountain.

4. S. 38° 30′ E. 6.86 chs. across rolling top of mountain.

Chains

S. 8° 00′ W. 13.87 chs. to a point that is 5.45 chs. west of the temp. 217th mile stake.

To have followed the call of the original notes, the base line from the north end of the mountain should have run S. 10° 00′ W., 147.50 chs. to a point, 14.30 chs. W. of the 217th mile corner.

Having failed to find any evidence of the 217th mile corner, or any evidence of the original line on top of Arshuleta Mountain, I conclude that the 217th mile cor. should be established at a point 6 chs. west of the east edge of the mountain top, as described in the original notes, and as reported found by Frank M. Johnson, Examiner of Surveys, in his examination of this line in the year 1901.

I now return to the 14.30 ch. point on the 218th mile and continue West on the retracement.

31.75 At this point I clear an opening in the aspen thicket and erect a tall signal flag to be used as a backsight. This is the first point on line I have found from which a view to the west could be obtained. Numerous ridges and canyons can be seen to the west, but there are no notable objects on line. I fail to find "a lone pine tree, standing near W. end of high mountain ridge," that "cannot be mistaken for any [fol. 1043] other," as reported in the notes of the original survey.

80.00 Set stake for temp. 218th mile point.

West on temp. 219th mile.

80.00 Set stake for temp. 219th mile point.

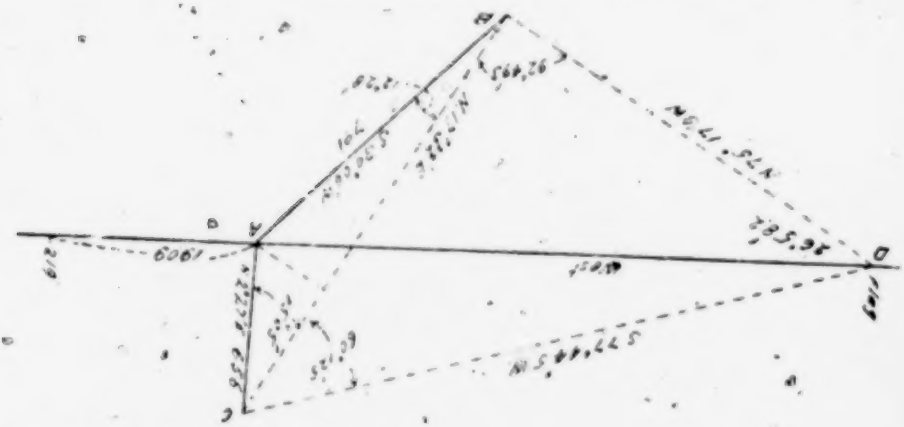
West on temp. 220th mile.

19.09 A wall of rimrock 300 ft. high bearing nearly N. and S., crosses to the line 1 ch. west of this point. Beyond the rimrock is a steep slope of debris and a canyon heavily timbered. I therefore set a flag on line on the first ridge to the west.

The edge of the rimrock is undulating, and is fringed with bushy trees, making it impossible to measure a base line along the edge. Therefore, from the stake at 19.09 chs., thence

S. 30° W. 7.91 chs. to a prominent point on the edge of the rimrock and set a stake for the S. end of the base line. Returning to the stake at 19.09 chs. on the random, Thence N. 2° 27′ E. 6.56 chs. to a prominent point on the edge of the rimrock and set a stake for the N. end of the base line. The stake at the S. end of the base line is visible from this point. It bears S. 17° 32′ W. The flag on the

ridge to the west bears S. 77° 14.5' W. From the S. end of the base line, the N. end bears N. 17° 32' E. and the flag on the ridge to the west bears N. 75° 17.3' W.



[fol. 1044] Retracement of the Boundary Line Between Colorado and New Mexico from the 220th to 235th M. Cor.

Computation of Base Line

Course	Distance	Angle with base line	Latitude	Departure
AB.....	7.91	12° 28'	7.724	1.708
AC.....	6.56	15° 05'	6.334 plus	1.707 (-)

Length of Base Line = 14.058.

Solution of Triangle BCD

Log of 14.058.....	= 1.147923	
" sin. 60° 12.5'..	= 9.938438	(plus)
	11.086361	
" sin. 26° 58.2'..	= 9.656661	(-)
" of side BD....	= 1.429760	Side BD = 26.90
" sin. 75° 17.3'..	= 9.985524	plus
" of departure BD	= 1.415284	Departure BD = 26.02

Course	Distance	Bearing	Departure
AB.....	7.91	S. 30° 00' W.	3.96
BD.....	26.90	N. 75° 17.3' W	26.02

Distance triangulated..... = 29.98
Distance from 219th mile point to point A..... = 19.09

Distance to point D..... = 49.07 chs. from 219th mile point.

Chains

39.07 Flag on high, sharp ridge, bearing N. 10° E. and S. 10° W.

Thence by chaining:

NOTE: Owing to an error in the field computation of this triangulation, which was later recomputed, the 220th mile point was set at

80.04 Set stake for temp. 220th mile point.

This error of 4 lks. was later adjusted by shortening one of the following miles an equal amount.

From the stake at the temp. 220th mile point, thence West setting stakes at temporary 221st, 222nd, 223rd and 224th mile points.

From the stake at the 224th mile point, thence West on the 225th temp. mile.

35.87 Center of D. & R. G. R. R. track at foot of steep bluff, at east edge of Navajo River valley, which bears N. 10° W. and S. 18° E. Thence across level valley.

[fol. 1045] Retracement of the Boundary Line Between Colorado and New Mexico from the 225th to 229th M. Cor.

The notes of the original survey state that a Witness Corner was established in this valley, 166 lks. west of east edge of valley. I am unable to find any evidence of this W. C. This valley is subject to overflow from the Navajo River. The Witness Corner was established 35.80 chs. west of the point for the 223rd mile corner, or 6 miles 35.80 chs. W. of the 217th mile corner on top of Archuleta Mountain. By my measurement it is approximately 7 miles 57.50 chs. from the point for the 217th mile corner to the point for the Witness Corner in the Navajo River valley. There is a discrepancy of approximately 1 mile 20 chs. between the two measurements.

I therefore investigate the method reported in the notes of the original survey for obtaining the position of the true line in the Navajo Valley, and the establishment of this Witness Corner.

First I locate the most probable position of the original line, by the present topography. Then from a point on this line 1 ch. west of foot of bluff, and 4.99 chs. north of our present line, thence

S. 2° W. 46.54 chs. as reported in the original notes. This puts me on top of a high bluff on the west side of the

Chains

river, the highest point in a radius of more than 20 ch. The original notes state that bearings were obtained from the bluff, back to the base line on Archuleta Mountain, but I find that no part of Archuleta Mountain is visible from this bluff. High ridges intervene, shutting off all view of Archuleta Mountain.

57.97 Set temporary reference stake in the valley.

From this stake the most probable position of the obl SE. Cor. of the Southern Ute Indian Reservation bears N 6° 18' W. 5.74 chs. dist. I located this position for the Old Reservation Corner by running S. 41° 05' W. 9.13 chs. from the Carpenter 107.025 M. Cor. (the call of the Carpenter notes). I find no corner at this point, but at a point S. 32° E. 16½ lks. dist. is a slight depression where [fol. 1046] it appears a post has stood. From this depression a pine tree, 24 ins. in dia., bears S. 23° E. 26 lks. dist., marked "TNM" on N. W. face, with a bearing tree mark at the base of the tree. This tree was about 18 ins. or 20 ins. in dia., at the time of being marked. I count 35 annular rings since the tree was blazed. The S. E. Cor. of the Southern Ute Indian Reservation was established in the year 1873, and should therefore be 44 years old. Since the bearing tree found has only 35 annular rings I do not consider this corner fully identified. There are no other trees near this point answering the description of the original bearing trees, nor is there any other evidence of this cor.

Having failed to find any evidence of the original line in the valley of the Navajo River, I conclude that the Witness Corner described in the original notes should be established on the true line at a point 166 lks. west of the East edge of the valley. I now return to the stake at 57.97 chs. and continue West, on the retracement of the 225th temp. mile.

80.00 Set stake at 225th temp. mile point.

West, retracing the 226th temp. mile.

76.73 Set a stake on a high mountain ridge, from which I triangulate back to the base line on Archuleta Mountain to check the chaining.

By triangulation the distance from the 217th mile cor. to this stake is 75 lks. less than by the chaining; a total distance of nearly 9 miles. I consider this an excellent check on the chaining and therefore continue with the retracement.

80.00 Set stake for 226th temp. mile point.

From the 226th temp. mile point, thence
West, setting stakes at the temp. 227th and 228th mile points.

[Jul 1947] Retracement of the Boundary Line Between Colorado and New Mexico from the 229th to 232nd Mile Cor.

Chains

West, retracing the 229th temp. mile.

18.41 Set a stake on line on a high spur sloping North, from which point, thence
S. 31° 30' E. to the top of the ridge and triangulate back to the base line on Archuleta Mountain for a check on the chaining.

By triangulation the distance to this point from the 217th mile cor. is 62 lks. less than by the chaining; in a total distance of nearly 11¼ miles.

I consider this an excellent check on the chaining and therefore continue with the retracement.

NOTE.—This ridge is at the distance reported in the notes of the original survey for the ridge on which a "lone pine tree" that "cannot be mistaken for any other" was observed, and to which triangulation was made from the top of Archuleta Mountain. The notes of the original survey also state that from this ridge, a flag was set "on a small elevation, near the valley" of the San Juan River.

I observe that this ridge is not high enough, or prominent enough to appear to an observer on Archuleta Mountain as "a high mountain ridge." This ridge is covered with cedar and pinon trees and scattering yellow pine trees. There is no extra large pine here that could be recognized from a distance, as "lone pine tree that cannot be mistaken for any other." From this ridge the valley of the San Juan River is not visible, because of intervening ridges.

There are no old blazes, nor any other evidences of the original line in this vicinity.

80.00 Set stake for 229th temp. mile point.

Thence West, retracing the 230th temp. mile.

67.20 On West side of top of a high mountain ridge, bearing nearly N. and S. From this point I run North, 3.91 chs. to a point from which I triangulate back to the base line on top of Archuleta Mountain, for a check on the chaining.

Retracement of the Boundary Line Between Colorado and New Mexico from the 229th to 232nd Mile Cor.

Chains

[fol. 1048] By triangulation the distance to this point from the 217th mile cor. is 35 lks. less than by the chaining; in a total distance of more than 12¾ miles.

I consider this an excellent check on the chaining and therefore continue with the retracement.

NOTE.—After completing the 230th temporary mile an error of 10 chs. was discovered in addition in the chaining notes, so that at:

90.00 Set stake for 230th temp. mile point.

This error was corrected by shortening the 234th temp. mile to 70.00 chs.

West retracing the 231st temp. mile

80.00 Set stake for 231st temp mile point.

West, retracing the 232nd temp. mile.

15.10 The top of a conical peak bears S. 70 lks. This peak corresponds to the "small elevation" near the valley described in the notes of the original survey; from which point a base line was run North and from the 40 ch. and 60 ch. points on this base line, angles were turned to a backsight, which was 181.19 chs. E. of the base line.

I observe that from points 40 chs. and 60 chs. N. of this peak, none of the high ridges to the east would be visible, because of intervening bluffs along the San Juan River. A point 181.19 chs. east of the peak would fall at west edge of a valley instead of on a high mountain ridge as described in the notes of the original survey.

50.00 Foot of steep descent. Enter San Juan River Valley.

71.43 Top of old river bank, bears nearly N. and S.

The notes of the original survey show that a Witness Cor. for the 231st mile cor. was established on the river bank 2 chs. East of the point for the 231st mile cor.

I make careful search at this point but am unable to find any evidence of the Witness Cor. or of the line.

Old residents of this valley state that in the year 1911 [fol. 1049] an unusually heavy flood occurred, which changed the entire topography of the valley, washing away the old banks, and forming new channels, so that no correct idea can now be obtained of the topography of the valley as it was before this flood.

80.00 Point for the 232nd temp. mile stake falls in road on a gravel bar. I set temp. stake 10 lks. E.

Chains

Retracement of the Boundary Line Between Colorado and New Mexico from the 232nd to 234th Mile Cor.

West from the 232nd temp. mile point (in road).
Retracing the 233rd temp. mile.

73.40 Approximate point for the original 232nd mile cor. The original notes state that this cor. fell on a sand bar on the S. side of the San Juan River. The 73.40 ch. point on this retracement is in a sandy valley in a dense growth of willow and cottonwoods and tall brush. The N. bank of the San Juan River is several chs. south.

80.00 Set stake for 233rd temp. mile point.

West retracing the 234th temp. mile.

70.00 Set stake for 234th temp. mile point. This stake is set at 70.00 chs. in order to balance the error of 10.00 chs. in the 230th temp. mile.

West, retracing, the 235th temp. mile.

1.10 Bed of canyon, bears N. N. E. and S. S. W. This the canyon noted in the original survey as being 50 lks. E. of the 233rd mile cor. I therefore make a very extensive and exhaustive search along the sides of this canyon for evidence of the 233rd mile cor. but can find none. The hillside on the west side of this canon is covered with sandstones of all shapes and sizes, and such a corner as described in the notes of the original survey could easily have been built, but I can find no evidence of the cor.

31.40 From this point I triangulate back to the base line on top of Archuleta Mountain for a check on the chaining. By triangulation the distance to this point from the 217th [fol. 1950] mile cor. is 168 lks. greater than by the chaining in a distance of 17.4 miles. Considering that only the triangulation tower at the south end of the mountain, and the signal flag erected on line on the mountain are visible, and that I can measure the angles only from the 31.40 ch. point on the retracement this is an excellent check on the chaining.

Retracement of the Boundary Line Between Colorado and New Mexico from the 235th to 236th Mile Cor.

80.00 Set stake for 235th temp. mile point.

The topography on the 235th temp. mile agrees closely with the original survey, allowing for the discrepancy between the temp. and the true lines. But I am unable to find any marks or blazes indicating the position of the original line.

Chains

West, retracing the 236th temp. mile.

80.00 Set stake for 236th temp. mile point.

87.40 Fall 68 lks. N. of the point for original 235th mile cor. This point is 9 lks. N. 45° W. from a large sandstone boulder, fully described in the following notes. The location of this boulder fits the topography recorded in the notes of the original survey and is the only large well defined boulder in a radius of over 3 chs. This boulder is not marked and I have failed to find any evidence of the original line other than the topography. I set a stake 9 lks. N. 45° W from the boulder at the point for the 235th mile cor.

NOTE.—From the 235th mile cor. the original survey was not continued West, but an offset was made to the valley of the San Juan River. I make no attempt to retrace this offset.

From the point for the 235th mile corner.

West on temp. line on 236th mile.

47.77 From stake on high rocky point at E. end of mesa I triangulate back to the base line on top of Archuleta Mountain to check the chaining.

[fol. 1051] By triangulation the distance to this point from the 217th mile cor. is 109 lks. greater than by the chaining, in a total distance of more than 19½ miles. Considering the length of the base line which is less than 1/6 the distance triangulated, this is an excellent check on the chaining.

80.00 Set stake for temporary 236th mile corner.

Retracement of the Boundary Line Between Colorado and New Mexico from the 236th to 240th Mile Cor.

From the temporary 236th mile corner.

Thence West, on a temporary line and at the 80 ch points set stakes for the temporary 237th, 238th, 239th and 240th mile corners.

From the 235th mile corner, the original survey was projected North 68 chs; on an offset and then carried West 4½ miles on a blank line and then another offset of 68 chs. to the South was made to obtain the original line.

4 Links

The 240th mile corner was the first corner established west of the 235th mile corner. Therefore at the temp. 240th mile corner, I make careful search for evidence of the original corner, but fail to find any. This point falls in the valley of the San Juan River.

From the temporary 240th mile corner.

Thence West, retracing the 241st mile.

80.00 The 241st mile corner was not established. Point falls on steep bluff on W. side of the San Juan River.

West, retracing the 242nd mile.

2.00 Set reference stake at top of bluff.

18.81 Fall 117 lks. S. of Astronomical Monument No. 8, described in the following notes.

[fol. 1052] Retracement of the Boundary Line Between Colorado and New Mexico by Wm. C. Perkins, U. S. Surveyor, Sept.-Nov., 1917

Summary of Evidence Adduced and Conclusions

From the evidence adduced in the foregoing retracement I now compute the bearings and lengths of the true line. All bearings are reported to the nearest minute of arc. From the 206rd to the 206th mile corners the distance reported in the notes of the original survey is 240.00 chains; while by this retracement it is found to be 239.17 chs. By retracement there is a total falling of 8 lks. in the 3 miles, which equals a correction of 2.3 lks. per mile. The restored line between these two corners will therefore bear N. 89° 59' W., and the proportionate distance between corners will be 79.723 chs.

From the 206th mile corner to the 211 mile corner the topography agrees closely with the topography recorded in the notes of the original survey. From the 211th mile corner west to Astronomical Station No. 7 the topography found by retracement does not agree in any respect with the topography recorded in the notes of the original survey. From the 206th mile corner to the 211th mile corner the retracement follows a line of occasional blazes, but west of the 211th mile corner there is no evidence of a line. From Astronomical Monument No. 7 running east to the 212th mile point in Ewell Canyon the topography agrees with the topography recorded in the notes of the original survey.

It appears from the topography that the original survey was projected west from the 206th mile corner as far as

Ewell Canyon. It also appears quite probable that the line was then projected further west on a blank line to Astronomical Station No. 7, at which point observations were taken, and finding that this position was south of the 37th degree of Latitude, an offset was made north to the parallel at which point Astronomical Monument No. 7 was established. From the 206th mile Corner Astronomical Station No. 7 bears N. 89° 37' W. 8 miles 47.55 chains. From the 206th mile corner west to a point due south of Astronomical Monument No. 7 is a distance of 8 miles 20.29 chs. From the 206th mile corner to Astronomical Monument No. 7 the original notes call for a line bearing N. 89° 39' W. 8 miles 25.30 chs.

[fol. 1053]

I therefore conclude that to properly restore the original line west of the 206th mile corner the two points, the 206th mile corner, and Astronomical Station No. 7, should govern the alignment, that is, the true line should run N. 89° 37' W. from the 206th mile corner on a direct line toward Astronomical Station No. 7. The distance from corner to corner should be the distance from the 206th mile corner to a point due S. of Astronomical Monument No. 7, 8 miles 20.29 chs. proportioned according to the call of the original notes. This proportion would make the distance from corner to corner to be 79.397 chs. The line from the 206th mile corner should be restored according to this alignment and corners established according to this proportion as far west as Ewell Canyon. From Astronomical Monument No. 7 the line should be restored east as far as Ewell Canyon. Since there is nothing to govern the alignment, the call of the original notes should be followed, and a correction of 3.22 lks. south per mile applied so that the true line restored will bear N. 89° 39' W. The topography recorded in the original notes indicate that the line running east from Astronomical Monument No. 7 was extended as far east as the top of the right (or East) slope of Ewell Canyon. As the east slope of Ewell Canyon is very precipitous at this point and near the top is a high wall of perpendicular sandstone rimrock, it would appear much more probable that the line from Astronomical Monument No. 7 was extended east only to the top of the west slope of Ewell Canyon. For similar reasons it appears quite probable that the original line was extended west from the 206th mile corner only to the top of the east slope of Ewell Canyon.

[fol. 1054]

I therefor conclude first to extend the restored line East from Astronomical Monument No. 7 to an Angle Point on the right (or East) slope of Ewell Canyon, about 1/3rd the way up from the bottom of the canyon to the base of the rimrock. Second. To extend the restored line west from the 206th mile corner to some convenient point on the right (or East) slope of Ewell Canyon, at which point

I will establish a corner for an Angle Point. Third: Then to run N. 38° W. on a connecting line, parallel to bed of the canyon to an intersection with the restored line extended east from Astronomical Monument No. 7. This connecting line will be below the rimrock and far enough above the bed of the canyon so that only a very rough, rugged, broken slope of little value will be traversed. I consider this position of the offset line the most satisfactory position obtainable. Going west from Astronomical Monument No. 7 no trace of the original line was found until reaching the point for the 235th mile corner, at which point there was a falling of 68 lks. This is equivalent to a correction of 3.11 lks. per mile (per 80.00 chs.). Therefore from Astronomical Monument No. 7 to the 235th mile cor. the restored line will bear S. 89° 59′ W.

The original notes show the distance from Astronomical Monument No. 7 to the 217th mile corner to be 214.70 chs. By the retracement this distance is 222.00 chs. The 217th mile corner should be established 6 ch. west of the top of Arcluleta Mountain, as described in the original notes. The temporary stake at the 217th mile corner has been set at a point 6 chs. W. of top of mountain. I therefore proportion the distance found by retracement according to the proportion in the original notes. The depar-
[fol 1055] ture from corner to corner will now become 82.72 chs. instead of 80.00 chs. as reported in the original notes. While from Astronomical Monument No. 7 to the 215th mile cor. it will become 56.56 chs. instead of 54.70 chs. as reported in the original notes.

To restore the Witness Corner in the Navajo River valley it should be set 166 lks. west of the east edge of the valley and on the true line, which is 32.7 lks. south of our retracement. The edge of the valley by retracement is at 55.87 chs. west of the temporary 224th mile point and the edge of the valley bears S. 18° E. The restored line will intersect the edge of the valley 10 lks. further east, or 55.77 chs. west of the temporary 224th mile point. The point for the restored Witness Corner will be 166 lks. west of the edge of the valley or 57.43 chs. west and 32.7 lks. south of the 224th temporary mile point.

Having determined the correct position for the restored Witness Corner in the Navajo Valley, I now proportion the distance from this corner to the 217th mile corner according to the proportion recorded in the original notes. By retracement it is 617.43 chs. from the 217th mile cor. to the restored Witness Corner, while by the original notes it should be 515.80 chs. Therefore, by proportion the departure from corner to corner on the restored line, west of the 217th mile cor. and as far as the restored 223rd mile corner will be 95.763 chs. From the 223rd restored mile corner to the restored Witness Corner will be, by propor-

tion, 42.854 chs. instead of 35.80 chs. as reported in the original notes.

From the restored Witness Corner in the Navajo Valley to the 235th mile corner by retracement is 969.97 chs. while by the original survey it was 924.20 chs. Therefore, by proportion, the departure from corner to corner will be 78.768 chs., instead of 80.00 chs. as reported in the original survey, while from the restored Witness Corner to the 224th mile corner will become 43.522 chs. instead of 44.20 chs. as in the original survey.

[fol. 1056] From the 235th mile corner to Astronomical Monument No. 8 by retracement the distance is 498.31 chs. By the original survey it was 501.70 chs. From the 235th mile corner to Astronomical Monument No. 8 there is a difference in latitude of 117 lks. which equals a correction of 18.8 lks. per mile (per 80.00 chs.)

From the 235th mile corner to Astronomical Monument No. 8 the restored line will bear N. 89° 52′ W. and the departure from corner to corner by proportion will be 79.46 chs. while from the restored 241st mile point to Astronomical Monument No. 8 by proportion, will be 21.55 chs. instead of 21.70 chs. as reported in the original survey.

The notes of the original survey would indicate that from Astronomical Monument No. 6 the survey was projected west, on a tangent to the parallel taking topography on the tangent and that West of the 191st mile cor. temp. corners were established making the offset from tangent to parallel at temp. cors. as far as Astronomical Monument No. 7, at which point after offsetting from tangent to parallel there was still a falling of 75 lks. The notes of the original survey would further indicate that a new tangent was initiated at Astronomical Monument No. 7 and produced west as far as Astronomical Monument No. 8, at which point after offsetting from tangent to parallel, there was still a falling of 410 lks. S. of Astronomical Monument.

Attention is called to the fact that if this procedure has been followed, and the topography taken on the tangent to the parallel, that the topography would not fit the corners as established. Thus if a tangent to the parallel had been run west from Astronomical Monument No. 7 to Astronomical Monument No. 8, a total distance by retracement of 8.1 miles, the tangent would have been 5.92 chs. S. of the parallel and since the parallel was reported 4.10 chs. S. of Astronomical Monument No. 8, the tangent [fol. 1057] would then have been 5.92 chs. plus 4.10 chs. = 10.02 chs. S. of Astronomical Monument. It is clearly evident that if the topography had been taken on the tangent it would have been for a line 10.02 chs. S. of Astronomical Monument No. 8.

At the 203rd mile cor. the notes state that the temp. cor. was established on the parallel by making an "offset from tangent." The description of the 203rd established mile cor. states that from the temporary corner an offset of 38.48 lks. to the N. was made. This should put the 203rd established mile corner 2.30 chs. N. of the tangent at this point, since the tangent was initiated at Astronomical Monument No. 6, more than 16 miles to the east. Had the topography at the 203rd mile corner been taken on the tangent, there would have been no mention of the "pond of water, or sink hole, 150 lks. wide, muddy water" which is 1 ch. west of the 203rd mile corner.

By retracement I have found and identified the 203rd, the 206th, and the 235th mile corners, also Astronomical Monument No. 7 and Astronomical Monument No. 8. At all of these corners I have found that the topography recorded in the notes of the original survey fits the positions of these corners. It is therefore evident that all corners were established on the line as surveyed, without making offsets and the topography recorded in the notes of the original survey is the topography of the true line.

Restoration Survey of the Boundary Line Between Colorado and New Mexico

I now restore the true line which is as follows: At the 203rd mile corner I find an aspen post, 3 ins. sq. 40 ins. above ground, marked

N. M. on the south face,
1901 on the west face,
C on the north face,
203 M. on the east face.

[fol. 1058] This is evidently the corner post set by Chas. A. Johnson, Commissioner for Colorado, when he resurveyed this line in the year 1901. His report states that he found the 203rd mile corner post "in place, well rotted. I re-set same." From the base of this aspen post I find the decayed remains of a fir post. These remains are 6 ins. wide on the surface, and extend northeast 5 ft. I believe these to be the remains of the original cor. post. From the aspen corner post

An aspen tree (living) 16 ins. dia. bears S. 5° W. 25 lks. dist., marked N. M. 203 with a bearing tree blaze at the base of the tree. This is one of the original bearing trees.

An aspen tree (dead) 14 ins. dia. bears N. 6° 30' E. 57 lks. dist., marked C. 203 B. T. This is the other other original bearing tree.

I consider this corner fully identified and restore it as follows:

Set an iron post, 8 ft. long, 3 ins. in dia. 24 ins. in the ground for the 203rd mile cor., with brass cap marked as follows:

I mark four new bearing trees, described as follows:
An aspen, 10 ins. in dia. bears N. 29° 15′ E. 45 lks. dist., marked "DAR. 203 MOOLOBT."
An aspen, 6 ins. dia. bears S. 64° 15′ E. 32½ lks. marked DAR. 203 M. N. M. B. T.
A-fir, 16 ins. dia. bears S. 75° 30′ W. 52 lks. dist. marked DAR. 203 M. N. M. B. T.
An aspen, 16 ins. dia. bears N. 61° 15′ W. 66 lks. dist. marked DAR. 203 M. Colo. B. T.
The magnetic declination at this corner is 15° 15′ E.

Chains	
[fol. 1059]	Thence N. 89° 59′ W. on the 204th mile. Over rolling land, through heavy aspen, pine and fir timber and scattering undergrowth, following a well defined line of old blazes.
1.00	East edge of dry lake, or "sink hole" 140 lks. in dia. covered with fallen timber, bears N. and S.
2.40	West edge of dry lake, bears N. and S.
6.20	Low spur slopes N. N. W. Descend a gradual N. N. W. slope.
11.20	Leave timber, bears N. N. E. and S. S. W. Enter an open park.
12.00	Small seap-spring on line, no running water. Thence across level bed of draw, course N.
13.20	Leave draw. Ascend a grad al E. slope.
19.00	Leave open park, bears N. W. and S. E. Enter heavy aspen, pine and fir timber. The line follows a well defined line of old blazes.
45.80	Low spur slopes N. N. E. Thence over rolling land.

Chains

48.50 Small draw, 50 lks. wide, course N. Leave rolling land and ascend steep N. E. slope.

49.00 Leave heavy timber, bears N. and S. W. and leave the line of blazes. Enter dense oak brush.

53.60 Top of steep N. E. slope, bears N. W. and S. E. Thence across N. slope.

59.70 Head of ravine, course N. N. E. about 2 chs. N. E. of saddle in mountain ridge. Leave N. slope and ascend steep E. slope.

63.00 Top of mountain ridge, sloping S. E. bears N. W. and S. E. Descend a steep S. W. slope.

66.70 Foot of slope, near head of a wide flat draw, course S. E. Ascend on a gradual S. E. slope.

79.40 Mountain ridge, bears N. W. and S. E. Descend a steep W. slope.

79.723 Find no evidence of the original cor[illegible].

At proportionate distance.

Set an iron post, 3 ft. long, 3 ins. in dia. 18 ins. in the ground to solid rock and build a mound of stone 4 ft. base, 1½ ft. high around the post, for the 204th mile corner, [fol. 1060] with brass cap marked as follows:

From which

A pine, 10 ins. dia. bears S. 34° 30' E. 97 lks., dist., marked Dar. 204 N. M. B. T.

Cross on a basalt boulder, 3 ft. x 2 ft., 2 ft. high bears S. 56° W. 40 lks. dist., marked B. O. 204.

A fir, 8 ins. dia. bears N. 65° 30' W. 134 lks. dist., marked Dar. 204 M. Colo. B. T.

A cross on S. face of basalt boulder, 1 ft. x 3 ft. 1½ ft. high bears N. 48° 45' W. 40 lks. dist.

There is no room on the S. face of the boulder for other marks, so I mark on the W. face of the boulder B. O. 204.

There is no bearing object or bearing tree in this N. E. quadrant.

A small peak about 100 ft. higher than the corner bears N. 38° E. about 8 chs. dist.

This cor[stands on steep W. slope 4 ft. lower than top of mountain ridge.

The magnetic declination at this corner is 15° 15′ E.

Land: Mountainous.

Soil: rocky and sandy; 4th rate.

Timber: Pine, aspen and fir.

Chains

N. 89° 30′ W. on 205th mile.

Descend steep W. slope through dense brush.

16.60 Foot of steep W. slope in ravine, course N. W.

Thence over a rolling N. slope.

20.50 Slope changes. Enter heavy timber, bears N. W. and S. E. and descend on a steep N. W. slope.

27.60 Foot of slope in a ravine, course S. W. Ascend along a [fol. 106] steep S. slope.

30.00 Top of ascent, on steep S. slope. Slope changes. Descend S. W. slope.

35.10 Ravine, course N. W. Foot of descent. Ascend along a nearly N. slope.

38.50 Top of ascent, on spur sloping N. Descend gradually over a nearly N. slope.

41.40 Slope changes. Descend Steep S. W. slope.

58.50 Foot of slope bears N. and S. Thence over nearly level valley land, gradually descending.

71.50 Enter level valley land bears E. N. E. and W. S. W. bordering a small stream.

Leave timber and undergrowth.

76.10 Stream of clear pure water, 3 lks. wide, 2 ins. deep, muddy channel, course W. S. W.

79.723 Find no evidence of the original corner.

At proportionate distance.

Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for the 205th mile corner, with brass cap marked as follows:

Chains

From which

Cross cut on W. face of a red sandstone boulder in the valley, which is 6 ft. x 10 ft. at the base and slopes to a ridge bearing N. and S. 3 ft. above ground, cross bears N. 66° 11′ E. 10.88 chs. dist., marked B. O. 205.

An oak, 12 ins. in dia. bears N. 10° 20′ E. 258 lks. dist., marked Dar. 205 M. Colo. B. T.

A willow, 8 ins. dia. bears S. 50° E. 134 lks. dist., marked Dar. 205 M. N. M. B. T.

[fol. 1062]

A willow, 6 ins. dia. bears S. 58° 45′ W. 213 lks. dist., marked Dar. 205 M. N. M. B. T.

An oak, 8 ins. dia. bears N. 60° 37′ W. 440 lks. dist., marked Dar. 205 M. Colo. B. T.

Stream of water bears South 105 lks. dist.

The magnetic declination at this corner is 15° 00′ E.

Land: Mountainous and level.

Soil: rocky and sandy: 2nd rate.

Timber: Oak, pine, spruce, aspen and willows.

N. 89° 59′ W. on the 206th mile.

Over level open valley.

6.70 Leave valley, bears N. E. and S. W. Ascend S. E. slope.

7.10 Enter dense oak brush, bears N. and S.

8.20 Top of ascent. Low spur ridge, slopes S. Descend S. W. slope.

13.00 Center of small valley, 240 lks. wide, bears S. Foot of descent. Ascend gradual E. slope.

21.40 Top of ascent. Low spur ridge, slopes S. Descend W. slope.

25.00 Foot of descent. Ascend a gradual E. slope.

30.80 Low spur ridge, slopes S. W. Descend W. slope.

33.10 Wire fence, bears N. and S. at foot of slope. Ascend a rolling S. E. slope.

46.90 Top of ascent, at S. end of ridge. Spur slope S. Descend Ascend a gradual S. S. W. slope.

51.70 Slope changes. Descend a steep S. W. slope.

57.70 Foot of steep S. W. slope. Thence descend over a gradual S. S. W. slope.

68.30 Cross a small spur ridge, sloping N. Continue descent.

72.60 Foot of descent. Center of valley 180 lks. wide, slopes S. S. W. Ascend a gradual S. E. slope.

76.60 Top of low spur, slopes N. Descend N. W. slope.

78.99 Enter an open valley, bears S. S. W. and N. N. E. Thence across level valley.

79.723 Set an iron post, 3 ft. long, 3 ins. in dia. 24 ins. in the

[fol. 1063] ground for the 206th mile corner, with brass cap marked as follows:

From which

A black jack pine, 20 ins. in dia. bears N. 34° 05' E. 581 lks. dist., marked D. A. R. 206 M. Colo. B. T.

A black jack pine, 22 ins. in dia. bears S. 36° 40' E. 281 lks. dist., marked Dar. 206 M. N. M. B. T.

A black jack pine, 20 ins. dia. bears S. 59° 20' E. 260 lks. dist., marked Dar. 206 M. N. M. B. T.

A black jack pine, 16 ins. in dia. bears N. 22° 05' W. 213 lks. dist., marked Dar. 206 M. Colo. B. T.

From this cor. a pine stump 30 ins. in dia. bears N. 15° 00' E. 250 lks. dist., which I believe to be the stump of one of the original bearing trees.

From the cor. I measure S. 72° W. 237 lks. and find a slight depression where it appears a tree might have stood. Logging operations and brush fires have destroyed all other evidences of the original corner.

As there are no other stumps in the N. E. quadrant that fit the position of the 206th mile corner I consider this bearing tree fully identified and the 206th mile corner, which was located from this stump, to be properly restored.

The magnetic declination at this corner is 15° 10' E.

Land: mountainous.

Soil: Sandy; 2nd rate.

Timber: pine.

Undergrowth: oak.

Chains

N. 89° 57' W: on the 207th mile.

Over open valley.

.70 Leave valley. Ascend steep E. S. E. slope.

[fol. 1064] Enter brush, bears N. and S.

Chains	
4.80	Top of ascent on spur sloping N. E. Descend across steep N. N. W. slope.
5.00	Conical peak bears S. 50° lks. Slope changes to a steep N. W. slope.
5.44	Pine tree, 18 ins. in dia. bears N. 9 lks. On this tree are two very old blazes, indicating that the line was south of the tree. I count 47 annular rings since the tree was blazed.
12.07	Old logging road, bears N. and S. At foot of steep descent. Descend gradually across valley.
12.40	Center of small valley, 1 ch. wide, slopes S. Ascend E. slope.
14.50	Top of ascent. Thence along S. slope.
16.10	End of slope. Descend a gradual S. W. slope.
21.32	Leave brush, bears N. N. W. and S. S. E.
22.70	Foot of slope, bears N. 10° W. and S. 10° E. Enter meadow.
28.10	Stream of clear pure water, 2 lks. wide, course N. W. for about 20 lks. then nearly west.
29.40	Stream is 3 lks. N. of line at S. end of bend.
36.70	Leave meadow, enter dense brush, bears N. and S. Ascend steep N. E. slope.
38.30	Top of ascent on spur sloping N. Thence along a steep N. slope.
50.20	Low ridge, bears N. N. W. and S. S. E. Descend S. W. slope.
54.52	The 125 mile corner on the Carpenter line bears N. 56.44 chs.
54.80	Road, bears N. W. and S. E.
57.30	Foot of slope, enter valley, bears N. W. and S. E. Thence across level meadow land.
78.75	Stream of water, 3 lks. wide, 6 ins. deep, course W. N. W.
79.12	Same stream, course S.
79.397	Find no evidence of the original corner. At proprotionate distance.

[fol. 1065] Set an iron post, 3 ft. long, 3 ins. in dia. 24 ins. in the ground for the 207th mile corner with brass cap marked as follows:

Chains

Raise a mound of stone 2 ft. base, 1½ ft. high N. of cor. This corner stands in a bend, in the stream, 24 lks. N. of stream and 25 lks. E. of it. The soil in this bend is very marshy.

In order to further preserve the location of this corner, I note the following bearings:

A yellow pine, 30 ins. in dia. standing at N. edge of valley, bears N. 66° 19′ E. about 10 chs. dist.

The S. end of a sandstone ledge on a steep mountain side facing S. W. bears S. 89° 33′ E., the verticle angle to which is 5° 04′ about 2 miles distant.

E. edge of overhanging ledge at E. end of mesa bears S. 1° 09′ W. about 60 chs. dist., the verticle angle to which is 8° 14′.

Point on side of a perpendicular ledge at N. W. point of mesa, bears S. 37° 58′ W. about ½ mile dist., the verticle angle to which is 10° 24′.

The magnetic declination at this corner is 15° 00′ E.

Land: mountainous.
Soil: Sandy; 2nd rate and marshy.
Timber: pine.
Undergrowth: Oak.

N. 89° 57′ W. on the 208th mile.
Over meadow land.

.25 Stream of water, 3 lks. wide, course N. 20° W.
3.67 Road, bears N. W. and S. E.
5.50 Center of marshy draw, 50 lks. wide across the bottom, [fol. 1066] course N. W.
7.80 Leave meadow land, bears N. 20° W. and S. 20° E. Ascend steep E. N. E. slope.
9.20 Enter oak brush, bears N. and S.
11.40 Spur, slopes N. Thence across steep N. slope.
14.30 Ridge, bears N. W. and S. E. Descend a gradual S. W. slope.
16.90 Head of small valley, course S. E. Ascend E. slope.
19.60 Spur ridge, slopes N. Descend N. W. slope.
24.40 Draw, course N. 30° E. Ascend E. slope.
27.60 Ridge, bears N. 20° W. and S. 20° E. Descend W. slope.
33.30 Leave oak brush, N. and S.
36.00 Base of hill, bears N. 60° E. and S. 60° W. Thence across meadow. Stream of water, 3 lks. wide, follows base of hill.
44.40 Road bears N. E. and S. W.
45.60 Leave meadow, bears N. W. and S. E. Ascend N. E. slope.
46.60 Enter oak brush, bears N. W. and S. E.
54.30 Leave oak brush, bears N. and S. Low ridge N. and S. Descend gradual W. slope.
56.00 Draw, course N. E. Ascend gradual E. slope.

Chains

39.50 Enter brush, bears N. and S.
74.60 Ridge, bears N. and S. Descend W. N. W. slope.
76.20 Head of draw, course N. Ascend steep N. E. slope.
79.397 Find no evidence of the original corner.
At proportionate distance.
Set an iron post, 3 ft. long, 3 ins. in dia. 24 ins. in the ground for the 208th mile corner, with brass cap marked as follows:

[fol. 1067] From which

A cross on a sandstone ledge, the exposed surface of which is 6 ft. x 3 ft. bears S. 64° 00′ W., 184 lks. dist., marked B. O. 208.

A cross on a sandstone boulder, 4 ft. x 1½ ft. 1 ft. high bears N. 44° 00′ W. 106 lks. dist., marked B. O. 208.

There are no trees available for bearing trees and no other available bearing objects. I therefore observe the bearings to the following objects.

A lone yellow pine tree, 24 ins. in dia. standing at E. edge of a small draw, and W. edge of oak brush, bears N. 60° 19′ E. about 8 chs. dist.

E. edge of overhanging ledge at N. E. point of rounded mesa, bears S. 37° 13′ W. about 15 chs. dist. and the vertical angle to which is 31° 22′.

A projecting point on the side of a perpendicular cliff at N. W. point of mesa, bears S. 64° 48′ W., about 25 chs. dist., the vertical angle to which is 22° 22′.

The 208th mile corner stands in dense brush, near the foot of the N. E. slope of a rounded mesa.

The magnetic declination at this corner is 15° 00′ E.

Land: rolling.
Soil: sandy, 2nd rate.
Timber: pine.
Undergrowth: oak.

Chains

N. 89° 57' W. on the 209th mile.

Ascend steep N. E. slope through dense brush

5.60 Slope changes. Ascend gradually over a very steep N. N. E. slope.

15.70 Sharp spur at top of ascent, slopes N.

From this spur the line descends a very steep N. W. slope, covered with an exceedingly dense undergrowth and then ascends a steep N. E. slope to

52.60 Low ridge, bears N. 60° W. and S. 60° E. sloping S. E.

77.50 Top of high mesa, bears N. 15° W. and S. 15° E. Thence [fol. 1608] across nearly level mesa.

78.90 Leave nearly level top of mesa. Enter dense aspen thicket bears N. 15° W. and S. 15° E. Descend W. slope

79.397 Find no evidence of the original corner.

At proportionate distance

Set an iron post, 3 ft. long, 3 ins. in dia. 24 ins. in the ground for the 209th mile corner with brass cap marked as follows:

From which

An aspen, 5 ins. dia. bears N. 23° 00' E. 13 lks. dist., marked Dar. 209 M. Colo. Bt.

An aspen, 5 ins. in dia. bears S. 26° E. 19½ lks. dist., marked Dar. 209 M. N. M. Bt.

An aspen, 4 ins. dia. bears S. 43° W. 27½ lks. dist., marked Dar. 209 M. N. M. Bt.

An aspen 4 ins. dia. bears N. 26° 30' W. 25½ lks. dist., marked Dar. 209 M. Colo. Bt.

The magnetic declination at this cor. is 15° 00' E.

Land mountainous.

Soil: rocky; 3rd rate.

Timber: aspen.

Undergrowth: oak.

Chains

N. 89° 57' W. on the 210th mile.

From the 209th mile corner the line descends a steep N. W. slope into a deep canyon, course S. W., at about 18 chs. then ascends a steep S. E. slope, crossing numerous high sandstone ledges to a high rocky spur sloping south at about 36 chs. beyond which another deep canyon, course S. about 48 chs. is crossed.

63.50 Top of high ridge, bears N. and S. between two canyons. From this ridge the line descends a gradual W. slope which [fol. 1069] soon changes to a steep W. slope and descends into a deep canyon, course S.

79.397 No corner was established at this point in the original survey. Point for the 210th mile corner falls in a deep canyon. As this would put the corner in a very inaccessible position, I determine to set a Witness Corner at the top of the west slope of this canyon.

Land: rough and mountainous.
Soil: rocky, 4th rate.
Timber: pine and aspen.
Undergrowth: oak.

N. 89° 57' W. on the 211th mile.

Crossing deep canyon.

12.00 Top of west slope of canyon, bears N. 30° E. and S. 30° W. Set an iron post, 3 ft. long, 3 ins. in dia. 24 ins. in the ground for witness corner to the 210th mile corner with brass cap marked as follows:

From which

A yellow pine, 16 ins. in dia. bears N. 40° 30' E. 82 lks. dist., marked Dar. 210 M. W° C. Colo. Bt.
A yellow pine, 26 ins. in dia. bears N. 5° 15' W. 259 lks. dist., marked Dar. 210 M. W. C. Colo. Bt.

Chains

No other trees available for bearing trees.
Raise a mound of stone 3 ft. base, 2 ft. high N. of Cor
The magnetic declination at this cor. is 15° 00' E.
Thence across nearly level mesa, through scattering timber and dense brush.

42.20 Head of draw, course S. W.

56.50 Old logging road, bears N. 70° E. and S. 70° W.

73.50 Head of draw, course S. W. Ascend a gradual S. E. [illegible 1070] slope.

77.00 Low ridge, bears N. E. and S. W. Descend a gradual W slope.

79.397 Find no evidence of the original corner.
At proportionate distance
Set an iron post, 3 ft. long, 3 ins. in dia. 24 ins. in the ground for the 211th mile cor. with brass cap marked as follows

From which

A yellow pine, 24 ins. in dia. bears N. 87° 00' E. 74 lks. dist., marked Dar. 211 M. Colo. Bt.
A black jack pine, 16 ins. in dia. bears S. 14° 00' E. 30 lks. dist., marked Dar. 211 M. N. M. Bt.
A black jack pine 14 ins. in dia. bears S. 72° 00' W. 152 lks. dist., marked Dar. 211 M. N. M. Bt.
A yellow pine, 16 ins. in dia. bears N. 74° 00' W. 46 lks. dist., marked Dar. 211 M. Colo. Bt.

The magnetic declination at this corner is 15° 15' E.
Land: mountainous with level mesa.
Soil: sandy and rocky: 4th rate.
Timber: pine.
Undergrowth: oak.

N. 89° 57' W. on the 212th mile.
Descend a gradual N. W. slope through scattering timber and dense brush.

Chains

12.70 Draw, 2 chs. wide, course S. 70° W. Continue to descend.
19.00 Leave thick brush bears N. and S. Descend steep N. W. slope through scattering timber.
25.20 Bed of canyon, with an old log shute in it, course S. W. Ascend a steep S. E. slope.
31.00 Leave S. E. slope. Thence over a rolling rugged S. slope along the top of Ewell Canyon.
38.00 Point of ridge, facing S. overlooking Ewell Canyon.
[fol. 1071] The line now descends over a precipitous sandstone cliff, and below that over a very steep rocky S. W. slope on the right side of Ewell Canyon.
47.714 Set an iron post, 3 ft. long, 3 ins. dia. 24 ins. in the ground for an Angle Point with brass cap marked as follows:

From which

A cross on the S. face of a sandstone boulder 3 ft. x 3 ft., 3 ft. high bears N. 14° 45' E. 24 lks. dist., marked B. C. A. P.
A fir, 20 ins. in dia. bears N. 63° 30' E. 77 lks. dist., marked Dar. A. P. Colo. Bt.
A cross on an exposed sandstone surface, 3 ft. x 5 ft., bears S. 66° 30' E. 48 lks. dist., marked B. C. A. P.
A yellow pine, 14 ins. in dia. bears S. 43° 30' W. 147 lks. dist., marked Dar. A. P. N. M. Bt.
A fir 12 ins. in dia. bears N. 59° 30' E. 166 lks. dist., marked Dar. A. P. Colo. Bt.

This Angle Point is on the right slope of Ewell Canyon, 428 chs. E. of the road and 5.44 chs. E. of the stream in the bed of the canyon.

The magnetic declination at this corner is 15° 00' E.

Land: mountainous.
Soil: rocky; 4th rate.
Timber: pine and fir.
Undergrowth: oak.

Chains

N. 38° 00′ W. on connecting line.
Descend steep N. W. slope; through dense brush.
4.50 Ravine, course S. W. Ascend steep S. E. slope.
7.65 Top of steep ascent. Thence along steep W. S. W. slope.
14.95 End of level on left bank of ravine. Descend steep N. W. slope.

[fol. 1072]

17.93 Ravine, course S. W. Ascend steep S. E. slope.
20.45 Top of ascent. Thence along steep S. W. slope.
25.10 Descend over a W. S. W. slope.
30.80 Ravine, course W. Ascend steep S. slope.
34.90 Top of ascent. Thence over W. S. W. slope.
41.10 A yellow pine, 24 ins. in dia:, marked with two notches on each side, facing the line for a line tree.
41.40 Spur slopes S. Descend over a steep W. slope.
48.35 Spur, slopes W. S. W. Continue descend.
53.26 Intersect the restored line, produced S. 89° 59′ E. from Astronomical Monument No. 7 at a point 78.29 chs. S. 89° 59′ E. from the point for the 213th mile corner. At point of intersection.

Set an iron post, 3 ft. long, 3 ins. in dia: 20 ins. in the ground with a mound of stone 3 ft. base, 1 ft. high built around the post for an Angle Point with brass cap marked as follows:

From which

A fir, 10 ins. dia. bears N. 70° 45′ E. 54 lks. dist., marked Dar. A. P. Colo. B. T.

A cross on an exposed sandstone surface, 4 ft. x 6 ft. facing S. W. bears S. 28° 30′ E. 36½ lks. dist., marked B. O. A. P.

A yellow pine, 24 ins. in dia. bears S. 25° 30′ W. 51 lks. dist., marked Dar. A. P. N. M. B. T.

A cross on the E. face of a sandstone boulder, 20 ft. x 20 ft. high, bears N. 73° 45′ W., 27 lks. dist., marked B. O. A. P.

The bed of a small wash, bears west 12 lks.

The magnetic declination at this corner is 15° 10′ E.
Land: mountainous.
Soil: rocky; 4th rate.
Timber: pine and fir.
Undergrowth: oak.

Chains

[fol. 1073] N. 89° 59′ W. on the 213th mile.
Descend steep S. W. slope over sandstone boulders, and through scattering undergrowth.

5.35 The witness closing cor. on the New Mexico Principal Meridian bears South 16.82 chs. As this cor. is at the top of the left slope of Ewell Canyon, I set a sandstone 24 x 16 x 6 ins. 18 ins. in the ground at a point 10 lks. S. of line marked N. M. P. M. on the S. face for a reference point only.

5.78 Stream of water, 5 lks. wide, 6 ins. deep course N. 75° W. in the bed of Ewell Canyon. Foot of slope. Thence across narrow valley.

6.42 Road N. W. and S. E.

6.65 Edge of valley, bears N. W. and S. E. Ascend steep N. E. slope. Enter dense undergrowth.

22.00 Top of left slope of Ewell Canyon, bears N. W. and S. E. Thence over nearly level mesa. Leave dense brush. Enter scattering timber and brush.

30.40 Low ridge, bears N. W. and S. E. Descend a gradual W. slope.

38.50 Head of draw, course S. W. Ascend a gradual E. slope.

42.00 Ridge, bears N. and S. Descend W. slope. Enter dense undergrowth.

68.20 Leave dense undergrowth, bears N. E. and S. W.

68.90 Draw, course S. W. Ascend S. E. slope.

73.00 Ridge, bears N. E. and S. W. Descend a gradual W. slope.

78.29 The 213th mile point by proportion.
No corner set here, bearing trees especially suitable 100 lks. West.
Land: rolling.
Soil: Sandy; 3rd rate.
Timber: pine and spruce.
Undergrowth: fir, spruce and oak.

N. 89° 59′ W. on the 214th mile.
Descend a gradual W. slope through scattering timber and oak brush.

1.00 Set an iron post 3 ft. long, 3 ins. dia. 24 ins. in the ground

[Vol. 1074] for a Witness Corner to the 213th mile cor., with brass cap marked as follows:

Chains

From which

A black jack pine, 8 ins. dia. bears N. 70° 15' E. 64 lks. dist., marked Dar. 213 M. W. C. Colo. B. T.

A black jack pine, 16 ins. in dia. bears S. 68° 00' E. 46 lks. dist., marked Dar. 213 M. W. C. N. M. B. T.

A black jack pine 10 ins. in dia. bears S. 37° 45' W. 56 lks. dist., marked Dar. 213 M. W. C. N. M. B. T.

A black jack pine, 20 ins. dia. bears N. 46° 00' W. 76½ lks. dist., marked Dar. 213 M. W. C. Colo. B. T.

The magnetic declination at this corner is 15° 00' E.

3.87 Fall 46 lks. N. of the limestone 4 x 8 ins. 8 ins. above ground marked M. C. N. M. on S. face, and C. on N. face for the closing cor. of secs. 11 and 12, New Mexico T. 32 N., R. 1 W.
This cor. is fully identified by its bearing trees.

6.20 Draw 50 lks. wide, course S. W. Continue descent over a rolling W. slope.

26.50 Ridge, bears N. and S. Descend W. slope.

42.90 Irrigation ditch 10 lks. wide, course S.

46.40 Slope changes. Descend a steep W. slope.

48.20 Old irrigation ditch, 10 lks. wide, course S.

49.90 Leave oak brush, bears N. and S.

50.06 Telephone line bears N. to Edith, Colo. and S. to Lumberton, N. M.

50.19 Intersect N. edge of a sandstone 6 x 12 ins. 24 ins. above ground, firmly set and marked.

Col. W. C. 214 M. on N. face.
N. M. on S. face.
B. on W. face.
No marks on E. face.

Chains

This is the Witness Corner established by surveyor Blair.

[fol. 1075] Burwell, under the direction of Charles A. Johnson, Commissioner for the State of Colorado, in the year 1904.

50.45 Road at base of hill, bears N. and S.

50.70 Wire fence, bears N. and S. Wire fence begins here and extends West on line.

50.82 The 118.1th mile corner on the Carpenter line, bears North 13.87 chs. Thence over gradual descent.

52.30 Stream of water, 6 lks. wide, 2 ins. deep, course N. 30° W. Foot of descent. Ascend E. N. E. slope.

61.20 Top of ascent. Spur ridge, slopes N. N. W. Descend W. N. W. slope.

63.60 Ravine, course N. Ascend N. E. slope.

66.30 Top of ascent. Spur ridge slopes N. E. Descend steep W. N. W. slope.

67.60 Foot of steep descent, bears N. 60° E. and S. 60° W. Thence descend over a very gradual slope.

69.10 Foot of descent at E. edge of level valley, bears N. 68° E. and S. 54° W. Thence over level cultivated land. Wire fence 4 lks. S. of line bears West.

76.85 Wire fence, begins 4 lks. S. of line and extends North.

79.397 Find no evidence of the original corner.

At proportionate distance.

Set an iron post, 3 ft. long, 3 ins. dia. 24 ins. in the ground for the 214th mile corner with brass cap marked as follows:

From which

A cottonwood 6 ins. dia. bears S. 6° E. 51 lks. dist. marked Dar. 214 M. N. M. B. T.

A cottonwood 12 ins. dia. bears S. 51° W. 41 lks. dist., marked Dar. 214 M. N. M. B. T.

[fol. 1076] No other trees available for bearing trees.

The E. edge of an overhanging ledge on W. side of Navajo River bears N. 57° 06' E. about 1½ miles dist. The foot of a steep slope, at left edge of valley, bears South 315 lks.

Right bank of ravine, bears W. 60 lks.
This corner stands in a cultivated field, so that pits are impracticable.
The magnetic declination at this corner is 15° 00′ E.
Land: rolling.
Soil: sandy; 2nd rate.
Timber: pine and cottonwood.
Undergrowth: oak.

Chains	
	N. 89° 59′ W. on the 215th mile.
	Over level cultivated land.
.50	Leave cultivated land, bears N. W. and E. S. E. Enter cottonwood and willow brush.
.60	Right bank of ravine, course N. W.
1.30	Left bank of ravine.
1.60	Leave brush, bears N. and S.
	Thence over open valley land.
6.20	Left bank of Navajo River, bears N. N. E. and S. S. W.
	Thence across river.
7.35	Right bank of Navajo River bears N. N. E. and S. S. W.
	Thence across gravel bar.
9.70	Leave gravel bar, bears N. and S. E. edge of large sawdust pile. The remains of the old saw mill at Edith Colo., bears North 5 chs.
16.70	W. edge of sawdust pile. Thence across level valley.
18.75	Old abandoned R. R. grade bears N. E. and S. W.
23.60	Old abandoned railroad grade, leading to saw mill bears N. E. and S. W.
25.11	At the point determined for Astronomical Monument No. 7 set an iron post 3 ft. long, 3 ins. dia. 24 ins. in the ground

[fol. 1077] with brass cap marked as follows:

Raise a mound of stone 3 ft. base, 2 ft. high N. of cor.
No trees are available for bearing trees.
As the mound of stone is liable to be destroyed I observe the following bearings:

1. The E. edge of a projecting ledge at top of west slope of the Navajo River Canyon bears N. 63° 40′ E. about 2 miles dist., the verticle angle to which is 3° 45′. This corresponds to the first bearing given in the original description for this cor.
2. A stone mound on the north peak, seen through the gap of the Navajo River, bears N. 65° 51′ E. about 20 miles dist., the verticle angle to which is 3° 25′. The original description of this corner gives a bearing through the river gap to a "mountain ridge." The bearing given in the original description is to a point midway between two peaks.
3. Highest point on the south peak, seen through the gap of the Navajo River, bears N. 65° 57′ E. about 20 miles dist., the vertical angle to the top of the peak being 3° 21′.
4. Overhanging ledge on bluff on south side of Navajo River Canyon, facing S. W. square on the west and bottom sides; west edge of ledge bears N. 69° 04′ E. about 2½ miles distant, the verticle angle to the bottom of the ledge being 3° 21′.
5. The original notes give a bearing to "point of mountain ridge, on south side of Navajo River, bears S. 69¾° E. about 2½ miles." This is rather indefinite, but there is a ridge in this direction about ¾ mile dist.
6. Cedar tree, standing on a west slope, bears S. 67° 57′ E. about ½ mile dist., the verticle angle to the base of the tree being 3° 43′.
7. Fir tree, on steep N. W. slope, bears S. 38° 11′ E., about 20 chs. the verticle angle to the base of the tree being 5° 14′.
8. The south one of 3 peaks, seen down the valley of the Navajo River bears S. 24° 13′ W., about 3 miles dist., the verticle angle to the top of the peak being 1° 26′.
9. The north one of the three peaks, bears S. 32° 04′ W., about 2 miles dist., the verticle angle to the top of the peak being 1° 43′. This bearing corresponds to the bearing in the original description to a "mountain peak, bears S. 32½° W." [fol. 1078]
10. A lone pine tree, on E. slope of Cemetery Hill, near the top at south end of hill, bears S. 49° 36′ W., about 15 chs. dist., the verticle angle to the base of the tree being 6° 47′.
11. A lone pine tree, bear the top of the E. slope at the the center of Cemetery Hill, bears S. 62° 30′ W., about 10 chs. dist., the verticle angle to the base of the tree being 9° 41′.

The magnetic declination at this corner is 15° 00′ E.
This position of the restored Astronomical Monument No. 7 fits the topography as recorded in the original notes. No other position of the cor. would do this.

Land, rolling.
Soil, sandy loam; 1st rate.
Timber, pine, cedar and fir.
Undergrowth, cottonwood and willows.

Chains

From Astronomical Monument No. 7
S. 89° 59' W. on the 215th mile.
Over level valley land.

1.50 Foot of Cemetery Hill, bears N. 42° E., and S. 23° W. Ascend steep E. S. E. slope.

2.50 Old railroad grade, bears N. 30° E. and S. 30 W.

2.59 Intersect a sandstone monument 8 ins. sq. 14 ins. above ground firmly set marked as follows:

Colo. on N. face.
B. on W. face.
1901 on E. face.
N. M. on S. face.

This corner was established by Blair Burwell, surveyor under the direction of Charles A. Johnson, Commissioner for Colorado, who resurveyed this line in the year 1901.

6.70 Top of steep ascent. Thence ascend gradually across the north end of Cemetery Hill.

9.70 Top of Cemetery Hill at north end. Descend a gradual N. N. W. slope.

11.90 Slope changes. Descend steep N. W. slope.

17.41 Wire fence, bears N. E. and S. W. This fence follows [fol. 1079] around the hill.

17.56 Irrigation ditch, 10 lks. wide, bears N. E. and S. W.

17.90 Foot of Cemetery Hill, bears N. 25° E. and S. 31° W. Thence across level meadow land.

20.10 Left bank of creek, 25 lks. wide, bears N. 3° W. and S. 4° W. Thence across creek, course S. 10° W. 10 lks. wide, 6 ins. deep.

37.30 Wire fence bears N. 73° W. and S. 73° E. at edge of meadow. Leave valley and ascend a gradual N. E. slope.

40.00 End of gradual ascent. Enter brush and scattering timber, bears N. W. and S. W. Ascend steep N. E. slope.

48.30 Line of fence posts, bears N. E. and S. W.

50.60 Spur, slopes N. 20° E. Descend on N. W. slope.

53.50 Ravine, course N. 60° E. Ascend E. S. E. slope.

56.56 Find no evidence of the original corner.
At proportionate distance

Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for the 215th mile corner with brass cap marked as follows:

From which

A pine, 16 ins. in dia., bears N. 42° 30′ E. 130 lks. dist., marked Dar. 215 M. Colo. B. T.

A pine, 10 ins. dia., bears S. 19° 45′ E. 171 lks dist., marked Dar. 215 M. N. M. B. T.

A pine, 6 ins. in dia., bears S. 28° 15′ W. 201 lks. dist., marked Dar. 215 M. N. M. B. T.

A pine, 14 ins. dia., bears N. 52° 25′ W. 182 lks. dist., marked Dar. 215 M. Colo. B. T.

The N. E. point of a basalt boulder, 12 ins. x 30 ins. at base, sloping to a chisel shaped edge bearing N. E. and S. W. at the top 2 ft. high, bears S. 27° W, 72 lks. dist., not [fol. 1080] marked.

This boulder stands on the south side of a small draw, under a brush pile. There are no other boulders near. Small draw, course E. bears south 50 lks. from the cor. The magnetic declination at this corner is 15° 00′ E.

Land, level and rolling.

Soil, sandy; 2nd rate.

Timber, pine.

Undergrowth, oak.

Chains

S. 89° 59′ W. on the 216th mile.

Ascend steep E. S. E. slope, through dense undergrowth and scattering timber.

3.76 Fall 6 lks. S. of the closing cor. of secs. 9 and 10, New Mexico, T. 32 N., R. 1 W., which is a granite stone, 6″ x 12 x 16 ins. set in a small mound of stone, marked M. C. N. M. on the S. face, C. on the N. face, and having three grooves on the E. and W. faces. From which a dead 10 in. pine bearing tree, bears S. 35° 30′ E. 61 lks. dist.

9.34 Top of steep ascent. Ridge bears N. E. and S. W. sloping N. E.

Chains

Thence over a rolling N. slope.

18.54 Slope changes. Ascend steep E. slope.

34.44 Wire fence, at corner in fence, bears North and S. 20° W.

35.64 Top of ascent on rocky spur, slope S. E. Thence over S. slope.

39.04 Old road, bears N. W. and S. E. Ascend a gradual E. slope.

51.74 Leave dense undergrowth, bears N. and S. Enter a shallow grassy draw, course S. E. Ascend in draw.

53.84 Leave draw, course N. 75° E. and cross a low point of land sloping S.

55.84 Same draw, course S. 60° E. Thence up the draw.

66.74 Deserted log cabin, bears N. 2 chs.

73.94 Small stream, 2 lks. wide, 1 in. deep, course S. E. Leave draw, enter dense undergrowth, bears N. and S. Ascend E. slope.

79.84 Top of ascent on low spur, sloping S. E. Descend along a [fol. 1081] gradual S. W. slope.

82.72 At proportionate distance.

Set an iron post, 3 ft. long, 3 ins. dia. 24 ins. in the ground for the 216th mile cor., with brass cap marked as follows:

From which

A cross on S. face of projecting ledge of basalt, 4 ft. x 3 ft., 1 ft. high, bears N. 18° 30′ W., 23 lks. dist., marked B. O. 216.

Raise a mound of stone, 3 ft. base, 2 ft. high N. of cor.

Stream of water bears South 3 lks.

As this corner stands in marshy ground, I raise a mound of stone, 3 ft. base, 1 ft. high, around the post.

Land, rolling.

Soil, sandy; 2nd rate.

Timber, scattering pine.

Undergrowth, oak.

Chains

S. 89° 30' W. on the 217th mile.
Thence through small valley with dense oak brush.

.10 Stream of water, 1 lk. wide, 1 in. deep, course S. 70° E.

1.92 Leave valley and ascend E. slope.

28.42 Top of ascent, on spur sloping S. E. Thence over a nearly level bench.

29.52 Leave undergrowth, bears N—and S. Enter an open grassy area.

32.02 Wire fence, bears N. and S. Leave bench and enter dense undergrowth. Ascend E. slope and enter scattering timber.

51.72 Top of steep E. slope. Thence across bench.

55.42 Leave timber and undergrowth, bears N. and S. Enter a broken, rough area of rocks.

62.22 Foot of steep slide rock, bears N. E. and S. W. Ascend over [fol. 1082] slide rock.

65.50 The 114.9th mile corner on the Carpenter line bears North 13.68 chs.

66.42 A projecting point of rocks on steep S. S. E. slope at top of slide rock. The south edge of this projection is on line. Enter scattering undergrowth and timber.

76.72 Top of Archuleta Mountain, bears S. 30° W. and N. 30° E. Thence over nearly level top of mountain.

81.00 Begin to descend gradually over a gentle N. W. slope.

82.72 Find no evidence of the original corner.
At proportionate distance.
Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for the 217th mile corner, with brass cap marked as follows:

From which

A yellow pine, 16 ins. dia., bears N. 5° 00' E. 108 lks. dist., marked DAR. 217 M. COLO. B. T.
A yellow pine, 30 ins. in dia., bears S. 33° 30' E. 163 lks. dist., marked DAR. 217 M. N. M. B. T.
An aspen 8 ins. dia., bears S. 49° 00' W., 32½ lks. dist., marked DAR. 217 M. N. M. B. T.
A fir, 20 ins. dia., bears N. 65° 30' W., 172 lks. dist., marked DAR. 217 M. COLO. B. T.

Strong local attraction is noticeable on top of Archuleta Mountain at the 217th mile cor.
The magnetic declination at the corner being 14° 45′ E.
Land, mountainous.
Soil, sandy and rocky; 3rd rate.
Timber, pine; aspen and fir.
Undergrowth, oak.

Chains

[fol. 1083] S. 89° 59′ W. on the 218th mile.
Descend a gradual N. W. slope through heavy timber and scattering undergrowth.
26.90 Draw, course S. W. Ascend gradually along S. S. E. slope.
59.50 Top of ascent, on a gradual S. slope. Enter dense undergrowth, bears N. 75° W. and S. 75° E. Descend S. W. slope.
60.80 Leave undergrowth and enter scattering timber, bears N. 30° W. and S. 30° E. Foot of steep descent. Descend a gradual W. slope.
62.90 Draw, course S. Ascend an E. S. E. slope.
68.50 Top of ascent, bears N. and S. Thence over a gentle W. slope.
95.763 At proportionate distance.
Set an iron post, 3 ft. long, 3 ins. dia., 24 ins. in the ground for the 218th mile corner with brass cap marked as follows:

From which

A black jack pine, 20 ins. dia., bears N. 22° 00′ E. 6. lks. dist., marked Dar. 218 M. Colo. B. T.
A black jack pine, 24 ins. in dia., bears S. 56° 00′ E. 28 lks. dist., marked Dar. 218 M. N. M. B. T.
A black jack pine, 24 ins. in dia., bears S. 12° 30′ W. 119 lks. dist. marked Dar. 218 M. N. M. B. T.
A black jack pine, 17 ins. in dia., bears N. 81° 00′ W. 139 lks. dist., marked Dar. 218 M. Colo. B. T.

The magnetic declination at this corner is 15° 20′ E.
Land, mountainous.
Soil, sandy; 3rd rate.
Timber, pine.
Undergrowth, oak.

Chains

[fol. 1084] S. 89° 59′ W. on the 219th mile.
Descend a gradual west slope through scattering timber and undergrowth.
22.44 Draw, course S. 70° W. Ascend S. S. E. slope.
25.24 Low, stony spur, sloping south. Descend S. W. slope.
28.39 The Gannett Monument established at the intersection of the 107th degree meridian, and the 37° Parallel, bears north 10.17 chs.
30.24 Bed of draw, stony bottom, course N. W. 20 lks. to a junction with a draw from the N. E.
32.44 Bed of draw, 5 lks. wide, stony bottom, course S. 30° W. Ascend steep S. E. slope.
35.94 Low ridge, slopes S. 20° W. Descend W. slope.
39.02 The 113th mile corner on the Carpenter line bears north 13.28 chs.
44.34 Draw, course S. About 6 chs. S. is the head of a deep box canyon.
Ascend steep E. slope.
45.94 Low ridge, bears N. 30° E. and S. 30° W. Descend a gradual N. W. slope.
70.54 E. edge of a small box canyon, 3 chs. south of N. end. Thence across canyon.
74.70 W. edge of box canyon. Ascend gradual E. slope.
78.39 Low ridge, bears N. and S. Descend a gradual W. slope.
84.34 Edge of mesa. A wall of perpendicular rimrock 30 ft. high, bears N. and S. Thence descend over slide-rock and across deep canyon.
95.763 Point for the 219th mile corner falls in canyon, in an inaccessible place.
Land, mountainous and mesa.
Soil, sandy and rocky; 3rd rate.
Timber, pine.
Undergrowth, oak.

S. 89° 59′ W. on the 220th mile.
Crossing deep canyon.
17.50 Sharp ridge, slopes S. 10° W.

762

[fol 1085] On this ridge, I set an iron post, 3 ft. long, 3 ins. in dia., 14 ins. in the ground in brittle rock and raise a mound of stone, 4 ft. base, 1½ ft. high around the post for a witness corner to the 219th mile corner with brass cap marked as follows:

From which

A black jack pine, 18 ins. in dia., bears N. 42° 45′ E., 111 lks. dist., marked Dar. 219 M. W. C. Colo. B. T.

A black jack pine, 18 ins. in dia., bears S. 57° 00′ E., 67 lks. dist., marked Dar. 219 M. W. C. N. M. B. T.

A black jack pine, 20 ins. in dia., bears S. 51° 45′ W. 59 lks. dist., marked Dar. 219 M. W. C. N. M. B. T.

A black jack pine, 16 ins. in dia., bears N. 58° 45′ W. 32 lks. dist., marked Dar. 219 M. W. C. Colo. B. T.

Chains	
	The magnetic declination at this corner is 14° 50′ E. Thence descend gradual W. slope through heavy timber and scattering undergrowth.
23.28	Slope changes. Descend steep W. slope.
31.10	Ravine, course S. 30° W. Ascend steep E. S. E. slope.
36.10	Top of ascent, on top of sharp spur ridge, sloping S. 30° W. Descend steep W. slope.
45.30	Canyon, course S. 10° W. Ascend steep E. slope.
49.00	Top of ascent. Thence over level S. slope across S. end of ridge.
56.00	Slope changes. Descend steep W. slope.
66.40	Canyon, course S. Stream of water 3 lks. wide, 3 ins. deep, course S. Ascend S. E. slope.
85.00	Sandstone rimrock bears N. N. W. and S. S. E. Ascend gradually.
92.60	Spur ridge, slopes S. Descend S. W. slope.
95.763	At proportionate distance.

[fol. 1086] Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for the 220th mile corner with brass cap marked as follows:

From which

A pine, 8 ins. in dia., bears N. 25° 30′ E., 78 lks. dist., marked Dar. 220 M. Colo. B. T.
A black jack pine, 30 ins. in dia., bears S. 83° 00′ E. 70 lks. dist., marked Dar. 220 M. N. M. B. T.
A yellow pine, 30 ins. in dia., bears S. 35° 30′ W. 85 lks. dist. marked Dar. 220 M. N. M. B. T.
A black jack pine, 20 ins. in dia., bears N. 55° 00′ W. 81 lks. dist., marked Dar. 220 M. Colo. B. T.

The magnetic declination at this corner is 14° 50′ E.
Land, mountainous.
Soil, rocky; 3rd rate.
Timber, pine.
Undergrowth, oak.

Chains

S. 89° 59′ W. on the 221st mile.
Descend steep S. W. slope through heavy undergrowth and scattering timber.
2.25 Bed of a short side canyon, course S. Ascend E. slope.
4.20 Point of sandstone ledge projects south 30 lks.
Descend steep S. W. slope over a sandstone ledge and boulders.
7.75 Bed of canyon, 30 lks. wide, course S. E. Ascend steep N. E. slope.
27.75 Spur ridge, slopes S. E. Descend S. W. slope.
29.75 Draw, course S. 50° E. heads 6 chs. N. W.
[fol. 1087] Ascend steep E. slope.
36.70 High, sharp mountain ridge, bears N. and S.
Descend steep W. slope.
45.42 Bed of canyon, course S. Ascend S. E. slope.
47.47 Cross a low spur, sloping S. Descend S. S. W. slope.

Chains

49.50 Ravine, course S. 60° E. Ascend Steep N. E. slope.
58.77 High mountain ridge, bears N. and S. Descend steep W. slope through exceedingly dense undergrowth.
77.10 Foot of descent. Ascend on N. N. E. slope.
78.70 Spur ridge, slopes N. Descend steep W. slope.
81.30 Short, steep canyon, course N. Ascend steep E. slope.
84.30 Top of spur ridge, slopes N. Descend steep N. W. slope.
90.10 Short steep canyon, course N. Ascend steep E. slope.
92.97 High spur ridge, slopes N. Descend on a N. N. W. slope.
95.763 The proportionate point for the 221st mile corner falls on a high steep slope, in dense undergrowth. A witness corner established in the valley of the canyon to the West will be accessible by trail. I therefore advance the corner.

Land, mountainous.
Soil, rocky; 3rd rate.
Timber, pine.
Undergrowth, oak.

S. 89° 59′ W. on the 222nd mile.
Descend over steep N. N. W. slope through dense undergrowth and scattering timber.

5.00 Slope changes. Descend along the top of a spur ridge sloping W.
10.80 W. end of spur ridge. Descend over sandstone rimrock on a steep N. W. slope.
16.32 Foot of steep N. W. slope bears N. E. and S. W. Thence across valley in bottom of canyon.
17.00 Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for the witness cor. to the 221st mile cor. with brass cap marked as follows:

[fol. 1088] From which

A pine, 8 ins. in dia., bears N. 81° 00′ E., 57 lks. dist., marked Dar. 221 M. W. C. Colo. B. T.

A fir, 10 ins. dia., bears S. 73° 00' E., 41 lks. dist., marked Dar. 221 M. W. C. N. M. B. T.
A pine, 12 ins. in dia., bears S. 29° 00' W. 167 lks. dist., marked Dar. 221 M. W. C. N. M. B. T.
A fir, 16 ins. in dia., bears N. 44° 30' W., 50½ lks. dist., marked Dar. 221 M. W. C. Colo. B. T.

Chains

Left bank of stream, bears North 87 lks.
Left bank of same stream, bears West 166 lks.
The magnetic declination at this corner is 15° 00' E.

18.75 Stream, 3 lks. wide, in bottom of canyon, course S. 30° W. Leave valley and ascend steep rugged S. E. slope.

42.75 Top of ascent on high rocky spur ridge, sloping S. Descend steep S. W. slope, through timber.

58.75 Bed of canyon, course S. 10° E. Ascend steep E. slope.

74.00 High ridge, bears N. and S. Descend S. W. slope.

75.95 Draw, course S. 10° E. Heads 2 chs. N. Ascend S. E. slope.

77.70 Mountain ridge, bears N. and S. Descend rolling W. slope.

82.00 Enter heavy pine timber, bears N. and S.

94.75 Ravine, course S. W. Ascend a gradual S. E. slope.

95.763 At proportionate distance
Set an iron post, 3 ft. long 3 ins. in dia., 24 ins. in the ground for the 222nd mile corner with brass cap marked as follows:

[fol. 1089] From which

A black jack pine, 16 ins. in dia., bears N. 3° 30' E., 25 lks. dist., marked Dar. 222 M. Colo. B. T.
A black jack pine, 14 ins. in dia., bears S. 55° 00' E. 37 lks. dist, marked Dar. 222 N. N. M. B. T
A black jack pine, 14 ins. in dia., bears S. 72° 30' W. 34 lks. dist., marked Dar. 222 M. N. M. B. T.
A black jack pine, 16 ins. in dia., bears N. 78° 00' W. 77 lks. dist., marked Dar 222 M Colo. B T.

Bed of ravine, course S. W. bears S. E. 65 lks. dist., to the nearest point, which is 2. chs. above the point where the stream turns to the south.

The magnetic declination at this corner is 14° 50′ E.

Land, mountainous.

Soil, sandy and rocky: 2nd and 3rd rate.

Timber, pine.

Undergrowth, oak.

Chains

S. 89° 59′ W. on the 223rd mile.

Ascend a gradual S. E. slope through heavy timber and low undergrowth.

6.20 Leave timber, bears N. and S. Enter scattering timber.

11.50 Ridge, bears N. E. and S. W. Descend rolling S. W. slope.

47.70 Ravine, course S. W. Thence along steep rolling S. slope.

51.70 Spur ridge, slopes S. Descend W. slope. Enter scattering timber and dense undergrowth.

62.00 Draw, course N. 80° W. Ascend N. N. E. slope.

67.00 Top of ascent. Ridge, bears N. 20° W. and S. 20° E. Descend a gradual W. slope.

81.80 Ravine, course S. 20° W. Ascend S. E. slope.

94.90 Ridge, slopes S. Descend steep W. slope.

95.763 At proportionate distance

[fol. 1090] Set an iron post, 3 ft. long, 3 ins. dia., 16 ins. in the ground to solid rock and raise a mound of stone 4 ft. base, 1½ ft. high around the post for the 223rd mile corner with brass cap marked as follows:

From which

A yellow pine, 24 ins. in dia., bears N. 26° 45′ E., 132 lks. dist., marked Dar. 223 M. Colo. B. T.

A cross on a sandstone boulder 2½ ft. x 6 ft. 1½ ft. high, bears S. 53° E., 60 lks. dist., marked B. O. 223.

A black jack pine, 24 ins. in dia., bears S. 55° 30′ W. 22 lks. dist., marked Dar. 223 M. N. M. B. T.

A yellow pine, 24 ins. in dia., bears N. 4° 40′ W. 151 lks. dist., marked Dar. 223 M. Colo. B. T.

This cor. stands on a steep W. slope about 20 ft. lower than top of ridge.
Magnetic declination at this cor. is 15° 10′ E.
Land, mountainous.
Soil, sandy and rocky; 2nd and 3rd rate.
Timber, pine, pinon and cedar.
Undergrowth, oak.

Chains

S. 89° 59′ W. on the 224th mile.
Descend steep W. slope, through heavy timber and undergrowth.

3.30 Ravine, course S. Ascend steep E. S. E. slope.

10.00 Spur ridge, slopes S. Descend rocky S. W. slope.

21.00 Slope changes. Thence along steep S. slope over broken sandstone ledges and rimrock above the valley of the Navajo River.

28.43 Slope changes. Descend steep rugged S. W. slope over [fol. 1091] sandstone boulders and broken jagged ledges.

38.02 The 107.625th mile corner on the Carpenter line bears North 12.90 chs.

40.28 Mile post 383 on the east side of the D. & R. G. R. R. track bears North 6.19 chs.

41.20 Foot of slope and E. edge of valley, bears N. 18° W. and S. 20° E. Thence across valley.

41.24 Center of D. & R. G. R. R. track on a curve, bears N. 20° W. and S. 25° E.

42.854 At point in valley 166 lks. west of edge of valley, which is the call of the original notes.
Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for the restored witness corner with brass cap marked as follows:

From which

A cross on S. W. face of a sandstone boulder, 3 ft. x 5 ft. at base, sloping to sharp edge bearing N. and S. 3 ft. above ground, bears N. 54° 13′ E. 100 lks. dist., marked B. O. W. C.

A black jack pine, 24 ins. in dia., bears S. 48° 50′ E. 100 lks. dist., marked Dar. W. C. N. M. B. T.
A cottonwood, 14 ins. in dia., bears N. 46° 20′ W. 75 lks. dist., marked Dar. W. C. Colo. B. T.

No bearing object or bearing tree available in the S. W. quadrant.
The magnetic declination at this corner is 15° 00′ E.
This witness corner stands in the Navajo River Valley, which is subject to overflow. In order to further preserve the position of this corner, I note the following bearings:

Chains.

[fol. 1092] 1. E. edge of overhanging ledge, facing E. at top of River bluff, bears N. 9° 49′ E. about 1 mile dist. the vertical angle to which is 4° 45′.
2. W. edge of rounded sandstone boulder on steep W. slope, on the east side of the Navajo River, bears N. 20° 51′ E., about 20 chs. dist., the verticle angle to which is 3° 08′.
3. Top point at N. end of rectangular sandstone boulder near foot of steep W. slope, bears S. 71° 31′ E. about 250 lks. dist., the verticle angle to which is 6° 31′.
4. Extreme S. edge of the top of a large flat sandstone boulder, lying on steep E. slope, bears N. 89° 08′ W. about 8 chs. dist., the verticle angle to the top of the boulder, being 10° 27′.
5. E. edge of standstone boulder, on high point facing east, bears N. 19° 01′ W. about 20 chs. dist., the verticle angle to which is 15° 23′.

Thence across valley.

44.80 Right bank of the Navajo River, bears N. 75° W. and S. 75° E.
This bank is washing away.
Thence across the river, course N. 75° W.
46.70 Left bank of the Navajo River, on gravel bar, bears N. 75° W. and S. 75° E. Thence across gravel bar.
47.80 Left bank of river, bears N. 33° W. and S. 80° E.
48.60 Foot of bluff; at west edge of the valley, bears N. and S. Ascend steep E. slope.
58.68 Top of west bluff of the Navajo River, bears N. and S. Descend W. slope through scattering timber and undergrowth.
61.73 Draw, course S. 30° W. Ascend over a gentle S. S. E. slope.
68.00 Top of ascent on low spur sloping S. Descend S. W. slope.
71.23 Draw, course S. E. Ascend N. E. slope.
86.376 At proportionate distance.

Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for the 224th mile corner with brass cap marked as follows:

[fol. 1093] From which

A black jack pine, 24 ins. in dia., bears N. 61° 15′ E., 63 lks. dist., marked Dar. 224 M. Colo. B. T.
A yellow pine, 30 ins. in dia., bears S. 6° 30′ E. 160 lks. dist., marked Dar. 224 M. N. M. B. T.
A yellow pine, 24 ins. in dia., bears S. 67° 30′ W. 98 lks. dist., marked Dar. 224 M. N. M. B. T.
A cross on a sandstone boulder 3 ft. x 4 ft. 2 ft. above ground bears N. 11° 05′ W. 63½ lks. dist., marked B. O 224.

The magnetic declination at this corner is 14° 50′ E. From the 224th mile Corner a corner on the N. boundary of the Jicarilla Apache Indian Reservation bears S. 9° 53′ W. 208 lks. dist. This cor. is a sandstone 6 x 16 ins. 12 ins. above ground, firmly set, marked N. M. on S. face, with 6 grooves on the N. E. and W. faces.

Land, mountainous and river bottom.
Soil, rocky and sandy loam; 1st and 3rd rate.
Timber, pine.
Undergrowth, pine.

Chains

S. 89° 59′ W. on the 225th mile.
Ascend gradually over gentle S. E. slope.
1.00 Top of ascent on ridge, sloping S. 30° E. Thence across rolling S. slope, through scattering timber and undergrowth.
9.60 Rocky spur, slopes S. Descend steep S. W. slope.
18.05 Canyon, course S. 30° E. Ascend steep N. E. slope.
25.85 Top of steep ascent. Sandstone ledge bears N. and S. Thence ascend over a very gradual E. slope.

Chains

41.75 Top of ascent on spur sloping S. E. Descend S. W. slope.
44.35 Side draw, course S. E. Ascend steep E. slope, through dense undergrowth.
55.85 Mountain ridge, bears N. 15° E. and S. 15° W. A rocky point on top of this ridge bears South 1 ch. dist. Descend steep W. N. W. slope.
71.05 Canyon, course N. Ascend steep E. N. E. slope.
78.768 At proportionate distance.
Set an iron post, 3 ft. long, 3 ins. dia., 24 ins. in the ground for the 225th mile corner with brass cap marked as follows:

[fol. 1094] From which
A black jack pine, 8 ins. in dia., bears N. 40° 30′ E., 49 lks. dist., marked Dar. 225 M. Colo. B. T.
A black jack pine, 10 ins. in dia., bears S. 58° 45′ E. 102 lks. dist., marked Dar. 225 M. N. M. B. T.
A cross on a sandstone boulder, 2 ft. x 3 ft. 6 ins. above ground, bears S. 44° 50′ W., 47 lks. dist., marked B. O. 225,
A black jack pine, 18 ins. in dia., bears N. 31° 30′ W. 70 lks. dist., marked Dar. 225 M. Colo. B. T.
The magnetic declination at this corner is 15° 00′ E.
Land, mountainous.
Soil, rocky; 3rd rate.
Timber, pine.
Undergrowth, oak.

S. 89° 59′ W. on the 226th mile.
Ascend steep E. N. E. slope through scattering timber and dense undergrowth.
3.78 Top of high ridge, bears N. 20° W. and S. 20° E. Descend steep S. W. slope through scattering timber.
20.70 Canyon, course N. Ascend steep E. slope.
22.50 Low ridge, bears N. and S. sloping N.

Chains

25.10 Center of grassy draw, 70 lks. wide, course N. Ascend steep E. slope.
28.10 Low ridge, slopes N. Descend steep W. slope.
30.10 Draw, course N. Ascend steep E. N. E. slope.
43.10 Top of steep E. slope. Thence across face of N. slope.
49.30 Leave steep N. slope and descend steep W. N. W. slope.
57.10 Ravine, course N. 10° E. Ascend steep E. slope.
66.90 Mountain ridge, bears N. and S. Descend S. W. slope.
74.90 Ravine, course S. W. Enter heavy timber and ascend S.
[fol. 1094] E. slope.
78.50 Spur ridge, slopes S. Descend a gradual S. W. slope.
78.768 At proportionate distance.

Set an iron post, 3 ft. long, 3 ins. in dia., 20 ins. in the ground with a mound of stone 3 ft. base, 16 ins. high built around the post for the 226th mile corner with brass cap marked as follows:

From which

A pinon, 8 ins. in dia., bears N. 52° 00′ E. 42½ lks. dist., marked Dar. 226 M. Colo. B. T.
A pinon, 10 ins. dia., bears S. 17° 30′ E. 13 lks. dist., marked Dar. 226 M. N. M. B. T.
A pinon, 8 ins. in dia., bears S. 71° 45′ W. 20 lks. dist., marked Dar. 226 M. N. M. B. T.
A cedar, 16 ins. dia., bears N. 30° 00′ W. 13 lks. dist., marked Dar. 226 M. N. M. B. T.

The magnetic declination at this corner is 14° 50′ E.
Land, mountainous.
Soil, rocky; 3rd rate.
Timber, cedar and pinon.
Undergrowth, oak.

Chains

S. 89° 59′ W. on the 227th mile.
Descend a gradual S. W. slope through heavy timber and undergrowth.

.90 Slope changes. Descend steep N. W. slope.

3.51 Ravine, course S. W. Ascend gradually over broken S slope.

9.20 Slope changes. Descend a gradual S. W. slope. Enter dense undergrowth and leave timber.

14.50 Foot of S. W. slope, bears N. 20° W. and S. 20° E. Thence along N. edge of valley.

21.50 Leave valley, bears N. 75° E. and S. 75° W. and ascend [fol. 1096] over a gradual S. S. E. slope through dense undergrowth.

41.10 Ravine and small stream of water 3 lks. wide, course N. 70° W. Thence down the valley on S. side of stream.

45.80 Same stream, 3 lks. wide, course S. 70° W.

48.30 Same stream, 3 lks. wide, course N. E. at W. end of bend. Thence over level valley on S. side of stream.

56.30 Leave valley, bears N. W. and S. E. Ascend N. E. slope.

78.768 Near top of slope at proportionate distance.
Set an iron post, 3 ft: lone, 3 ins. in dia., 24 ins. in the ground for the 227th mile cor., with brass cap marked as follows:

From which

A pinon, 12 ins. in dia., bears N. 10° 00′ E. 39 lks dist., marked Dar. 227 M. Colo. B. T.

A black jack pine, 16 ins. in dia., bears S. 5° 00′ E. 59 lks. dist., marked Dar. 227 M. N. M. Bt.

A yellow pine, 24 ins. in dia., bears S. 52° 30′ W. 176 lks. dist., marked Dar. 227 M. N. M. Bt.

A black jack pine, 14 ins. in dia., bears N. 57° 10′ W. 78 lks. dist., marked Dar. 227 M. Colo. B. T.

This corner stands on the E. side of the top of a spur ridge, facing North.

The magnetic declination at this corner is 14° 50′ E.

Land, valley.
Soil, sandy loam; 1st and 2nd rate.
Timber, pine, pinon and cedar.
Undergrowth, dense oak.

Chains

S. 89° 59′ W. on the 228th mile.
Ascend gradually through scattering timber and under-
[fol. 1097] undergrowth.
1.20 Top of ascent on spur facing N. Descend a gradual W. N. W. slope.
10.25 Draw, course N. 20° W. Ascend N. E. slope.
17.75 Mountain ridge, bears N. 20° W. and S. 20° E. Descend S. W. slope.
31.95 Ravine, course S. 30° W. Ascend S. E. slope. Enter dense timber.
35.95 Top of ascent, on spur ridge, sloping S. W. Descend steep W. slope.
46.25 Leave dense timber and enter scattering undergrowth.
62.80 Foot of descent, at east edge of valley, bears N. and S. Thence across valley.
64.95 E. edge of arroyo, 40 lks. wide, 10 ft. deep, course N.
66.15 Leave valley. Enter scattering timber and dense undergrowth.
Ascend N. E. slope.
71.50 Top of ascent. Thence over steep N. slope.
78.768 At proportionate distance.
Set an iron post, 3 ft. long, 3 ins. dia., 24 ins. in the ground for the 228th mile corner with brass cap marked as follows:

From which

A yellow pine, 21 ins. in dia., bears N. 5° 00′ E. 62 lks. dist., marked Dar. 228 M. Colo. B. T.
A black jack pine, 12 ins. in dia., bears S. 71° 30′ E. 103 lks. dist., marked Dar. 228 M. N. M. B. T.

B A cross on a standstone boulder 4 ft. x 8 ft. 2 ft. above ground, bears S. 63° 30' W., 45 lks. dist., marked B. C. 228. The cross is at the S. end of the boulder.

[fol. 1698] A yellow pine, 24 ins. in dia., bears N. 34° 00' W., 14 lks. dist., marked Dar. 228 M. Colo. B. T.

The magnetic declination at this corner is 14° 45' E. This corner stands on a steep N. slope in dense undergrowth about 2 chs. south of a ravine, the course of which is E.

Land, mountainous.
Soil, rocky; 3rd rate.
Timber, pine, cedar and pinon.
Undergrowth.

Chains	
	S. 89° 59' W. on the 229th mile.
	Along steep N. slope through scattering timber and dense undergrowth.
4.00	Ravine, course N. 70° E. Ascend steep E. slope.
5.20	Top of ascent, bears N. and S. Thence across bench.
21.80	Leave bench, bears N. N. W. and S. S. E. Ascend E. slope through timber.
29.00	Top of ascent. Thence along a gradual N. slope.
39.00	Slope changes. Ascend a gradual N. E. slope. Enter dense timber.
42.00	Top of ascent, bears N. 70° W. and S. 70° E. Thence across top of mountain range.
51.40	Leave top of ridge, bears N. W. and S. E. Descend steep S. W. slope.
58.00	Foot of steep descent, bears N. W. and S. E. Thence across bench, descending a gradual W. slope.
74.77	At west edge of bench at top of steep descent into ravine. Set an iron post, 3 ft. long, 3 ins. in dia., 22 ins. in the ground to solid rock and raise a mound of stone 3 ft. base, 1 ft. high around the post for the witness corner to the 229th mile corner with brass cap marked as follows:

Chains

[fol. 1099] From which

A cross on a sandstone boulder 6 ft. x 8 ft. 2 ft. above ground, bears N. 47° 30' E., 10 lks. dist., marked B. D. 229 W. C.

A cedar, 7 ins. dia., bears S. 73° 30' E. 12 lks. dist., marked Dar. 229 M. W. C. N. M. B. T.

A cedar, 10 ins. in dia., bears S. 44° 00' W. 18 lks. dist., marked Dar. 229 M. W. C. N. M. B. T.

A pinon, 10 in. dia., bears N. 1° 45' W., 51 lks. dist., marked Dar. 229 M. W. C. Colo. B. T.

The magnetic declination at this cor. is 14° 50' E.

Thence descend steep W. slope through heavy timber and dense undergrowth.

78.768 The 229th mile point by proportion falls within 50 lks. of the bed of ravine, on a steep bank, where it would not be easily accessible.

Land, mountainous and level mesa.
Soil, sandy; 2nd and 3rd rate.
Timber, pinon and cedar.
Undergrowth, oak.

S. 89° 59' W. on the 230th mile.

Descend steep W. slope.

.50 Ravine, course S. W. Ascend steep S. E. slope through scattering timber and undergrowth.

4.40 Top of ascent, on spur sloping S. Thence across a broken rugged S. slope.

9.80 Ridge, slopes S. 30° W. Descend on W. slope.

23.50 Foot of Steep W. slope in bed of ravine, course N. W. Thence descend gradually across valley.

33.60 Leave valley bears N. 60° W. and S. 60° E. Ascend steep N. E. slope.

41.90 Top of ascent, on spur ridge, sloping N. Thence along steep N. slope.

51.20 Slope changes. Descend steep N. W. slope.

56.20 Foot of slope, in ravine, course N. 30° W. Thence descend gradually in valley on S. side of stream.

67.70 Leave valley bears N. W. and S. E. Ascend steep N. E. slope.

Chains

78.76 At proportionate distance.
Set an iron post, 3 ft. long, 3 ins. dia., 24 ins. in the [fol. 1100] ground for the 230th mile corner with brass cap marked as follows:

From which

A pinon, 8 ins. in dia., bears N. 20° 45′ E. 46 lks. dist., marked Dar. 230 M. Colo. B. T.
A pinon, 6 ins. dia., bears S. 76° 50′ E. 97 lks. dist., marked Dar. 230 M. N. M. B. T.
A pinon, 6 ins. dia., bears S. 23° 00′ W. 43 lks. dist., marked Dar. 230 M. N. M. B. T.
A pinon, 10 ins. dia., bears N. 9° 40′ W. 58 lks. dist., marked Dar. 230 M. Colo. B. T.
Land, rolling and mountainous.
Soil, sandy; 2nd and 3rd rate.
Timber, pinon and cedar.
Undergrowth, oak.

S. 89° 59′ W. on the 231st mile.
Ascend steep N. E. slope through dense undergrowth and timber.
4.50 Spur slopes S. E. Ascend on a steep S. E. slope.
9.45 Top of ascent on spur ridge sloping N. E. Thence across N. slope.
11.50 Cone shaped peak, bears S. 20 lks. Descend steep W. slope.
25.25 Ravine, course N. 30° W. Ascend on steep N. N. E. slope.
29.50 Slope changes. Thence over N. slope.
33.35 Leave timber. Slope changes. Descend steep N. N. W. slope covered with sage brush.

Chains

41.39 The 100th mile corner on the Carpenter line bears North 11.86 chs.

47.45 Foot of slope at east edge of San Juan River Valley, bears N. 50° E. and S. 50° W. Leave sage brush.

[fol. 1101] Thence across level open grassy valley.

52.85 Right bank of arroyo, 8 ft. deep, course N. 10° E.

54.55 Left of arroyo, bears N. and S.

64.75 Road, N. W. and S. E.

65.45 Wire fence, bears N. W. and S. E.

67.65 Old river bank, 10 ft. high, bears N. and S. fringed with willows and cottonwoods. From foot of bank thence across level gravel bar.

78.768 At proportionate distance

Set an iron post, 3 ft. long, 3 ins. dia., 24 ins. in the ground for the 231st mile corner with brass cap marked as follows:

From which

A cottonwood, 12 ins. in dia. bears N. 10° 30′ E. 182 lks. dist., marked Dar. 231 M. Colo. B. T.

A cottonwood, 10 ins. in dia., bears S. 42° 45′ W. 159 lks. dist., marked Dar. 231 M. N. M. B. T.

A cottonwood, 10 ins. in dia., bears N. 16° 00′ W. 85 lks. dist., marked Dar. 231 M. Colo. B. T.

No bearing tree available in the S. E. quadrant.

The extreme E. edge of a sandstone ledge above the D. & R. G. R. R. track bears N. 42° 01′ E. about ½ mile dist., the verticle angle to which is 1° 11′.

A straight cedar tree on S. side of top of cone shaped peak bears S. 89° 38′ E. about 1 mile dist., the verticle angle to which is 5° 23′.

A pinon, on ridge, bears S. 49° 06′ E. about ½ mile dist., the verticle angle to which is 6° 30′.

The San Juan River is about 8 chs. N. of this corner.

[fol. 1102] Land, mountainous and level.
Soil, sandy; 1st and 2nd rate.
Undergrowth, willows, oak and sagebrush.
Timber, cedar, pinon and cottonwood.

Chains	
	S. 89° 59′ W. on the 232nd mile.
	Over gravel bar, through timber and undergrowth.
8.57	Leave timber and undergrowth, bears N. E. and S. W.
	Thence over sand bar on S. side of the San Juan River.
21.00	Leave sand bar bears N. W and S. E. Ascend steep river bank, 20 ft. high.
21.70	Top of river bank, bears N. W. and S. E. Thence over gently rolling sage brush flat.
27.70	Adobe house bears N. 2.30 chs.
31.30	Road, bears N. W. and S. E.
34.80	Right bank of ravine, bears N. 30° W and S 30° E. Enter dense undergrowth and scattering timber. Thence across ravine, course N. W.
37.70	Left bank of ravine, bears N. and S. E. Thence over rolling bench.
37.89	Wire fence bears N. and S.
40.00	Leave dense oak brush and timber, bears N. E. and S. W. Thence across open area, near house.
41.52	S. end of frame and adobe house, 10 lks. east of S. W. cor. of house, owned by Jose Sandoval.
42.00	Old river bank bears N. 25° E. and 25° W. Thence across cultivated valley.
51.30	Wire fence at edge of cultivated land, bears N. 30° E. and S. 30° W. Enter dense undergrowth.
56.00	Leave valley land, bears N. 30° W. and S 30° E. Thence across gravel and sand bar.
60.00	Water edge on left bank of San Juan River.
	Thence across river, course S. 30° E.
61.00	Right bank of San Juan River, 6 ft high, bears N. N. W. and S. S. E.
	Thence across level valley, through an exceedingly dense undergrowth.
77.01	Wire fence bears N. and S.
78.768	Find no evidence of the original corner.

[fol. 1103] At proportionate distance.

Set an iron post, 5 ft. long, 3 ins. in dia. 24 ins. in the ground for the 232nd mile corner with brass cap marked as follows:

From which

A cottonwood, 10 ins. in dia., bears N. 53° 30′ E. 40 lks dist., marked Dar. 232 M. Colo. B. T.

A cottonwood, 8 ins. in dia., bears S. 71° 00′ E. 71 lks. dist., marked Dar. 232 M. N. M. B. T.

A cottonwood, 6 ins. in dia., bears S. 69° 00′ W. 36 lks. dist., marked Dar. 232 M. N. M. B. T.

A cottonwood, 6 ins. in dia., bears N. 43° 40′ W. 95 lks. dist., marked Dar. 232 M. Colo. B. T.

The magnetic declination at this corner is 14° 45′ E.

Land, valley.

Soil, sandy; 1st to 2nd rate.

Timber, cottonwood.

Undergrowth, willows, and oak, with sage brush.

Chains

S. 89° 59′ W. on the 233rd mile.

Over level valley land, through dense undergrowth and over piles of drift wood.

5.80 Dim road, bears N. and S.

7.25 Fence corner on line, from which wire fences bear, one North and one West.

11.50 Right bank of the San Juan River 4 ft. high, bears N. 60° W. and S. 60° E. Thence across river, course N. 60° W.

14.10 Edge of water, on left shore of the San Juan River. Thence across gravel and sand bar.

30.50 Leave gravel and sand bar, also river bed, which bears [fol. 1104] N. 40° W. and S. 40° E. Ascend steep bank 20 ft. high.

31.30 Top of bank, bears N. 40° W. and S. 40° E. Thence across nearly level bench.

Chains

34.00 Adobe house of Roque Gallegos, bears S. 2 chs.
36.30 Wagon road, bears N. W. and S. E.
38.90 Leave bench, bears N. W. and S. E. Ascend steep N. E. slope through dense undergrowth.
51.80 Spur slopes N. Enter scattering timber. Descend steep N. W. slope.
56.40 Ravine, course N. 20° E. Ascend steep E. slope.
60.60 Spur slopes North. Descend N. W. slope.
62.20 Small ravine, course N. Ascend a gradual N. E. slope.
64.80 Spur, slopes N. Thence over rolling N. slope.
69.70 Slope changes. Descend steep rocky N. W. slope.
73.00 Bed of canyon, course N. Ascend steep rocky S. E. slope.
78.768 Find no evidence of the original corner.
At proportionate distance.
Set an iron post 3 ft. long, 3 ins. in dia.; 24 ins. in the ground for the 233rd mile corner with brass cap marked as follows:

From which

A black jack pine, 12 ins. in diam., bears N. 31° 55′ E. 131 lks. dist., marked Dar. 233 M. Colo. B. T.
A cedar, 8 ins. in dia., bears S. 45° 30′ E. 62 lks. dist., marked Dar. 233 M. N. M. B. T.
A cross at N. W. Cor. of a sandstone boulder, 6 ft. x 12 ft. 1 ft. high, bears S. 12° 00′ W. 11 lks. dist., marked B. O. 233.
A yellow pine, 26 ins. in dia., bears N. 56° 05′ W. 88 lks. dist., marked Dar. 233 M. Colo. B. T.
[fol. 1105] A cross on a sandstone boulder 3 ft. x 3 ft., 2 ft. high, bears N. 82° 40′ E. 41 lks. dist., marked B. O. 233.

The magnetic declination at this corner is 14° 45′ E.
Land, mountainous and valley.
Soil, sandy; 1st and 2nd rate.
Timber, pine, pinon and cedar.
Undergrowth, oak.

Chains.

S. 89° 59′ W. on the 234th mile.

Ascend steep rocky E. slope through dense undergrowth and timber.

5.00 Top of ascent. Thence across rolling N. slope.

11.14 Draw, course N. Ascend a gradual N. E. slope.

21.50 Leave timber and dense undergrowth, bears N. W. and S. E. Ascend gradually over bench land, through scattering timber and undergrowth.

22.45 Top of ascent. Thence over level bench land.

34.40 Leave bench, bears N. W. and S. E. Ascend steep N. E. slope.

41.50 Top of ascent on spur, sloping N. Descend N. W. slope.

43.15 Side draw, course N. 30° W. Ascend N. E. slope.

53.14 High spur, slopes N. Descend steep N. W. slope. Enter dense undergrowth.

55.15 Projecting point of sandstone ledge, 8 ft. high. This ledge bears N. 40° E. Descend very steep W. slope through dense timber.

71.06 Bed of canyon, course N. Thence ascend N. E. slope.

75.95 Side draw, course N. 60° E. Continue ascent.

78.768 At proportionate distance

Set an iron post, 3 ft. long, 3 ins. in dia., 20 ins. in the ground and raise a mound of stone, 4 ft. base, 1½ ft. high around the post for the 234th mile corner with brass cap marked as follows:

[fol. 1106] From which

A cross on a sandstone boulder, 4 ft. x 10 ft. 3 ft. high, bears N. 28° 45′ E., 43 lks. dist., marked B. O. 234. The cross is 1½ ft. from W. end of boulder.

A cedar, 6 ins. in dia., bears S. 28° 00′ E. 23 lks. dist., marked Dar. 234 M. N. M. B. T.

A cedar, 16 ins. in dia., bears S. 32° 00′ W. 16 lks. dist., marked Dar. 234 M. N. M. B. T.

A cross on a sandstone boulder 8 ft. x 8 ft. 5 ft. high, bears N. 29° 20′ W. 15 lks. dist., marked B. O. 234. The marks on the E. face of the boulder.
A side draw, course E. N. E. bears S. 90 lks.
The magnetic declination at this corner is 14° 45′ E.
Land, mountainous.
Soil, sandy; 2nd and 3rd rate.
Timber, cedar and pinon.
Undergrowth, oak, cottonwood and willow.

Chains

S. 89° 59′ W. on the 235th mile.
Ascend steep E. slope through dense timber and undergrowth, over sandstone boulders and broken ledges.
10.00 Top of ascent, bears N. and S. Thence over bench.
22.30 Leave bench, bears N. E. and S. W. Descend steep N. W. slope.
28.30 Ravine, course N. 50° W. Ascend steep N. N. E. slope.
32.10 Slope changes. Ascend over rolling N. slope.
41.90 Ridge, bears N. and S. Saddle in ridge, bears N. 60 lks. and north of the saddle is a low rounded point. Thence ascend over a rolling N. slope. Leave timber.
53.50 Top of ascent on steep N. slope. Thence descend steep N. W. slope.
62.50 Ravine, course N. Ascent steep N. E. slope. Enter scattering timber.
78.768 Point for cor.
Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for the 235th mile corner with brass cap marked as follows:

[fol. 1107] From which

A cross on N. W. face of sandstone boulder 6 ft. x 8 ft. 6 ft. high bears S. 45° E. 9 lks. dist., marked B. O. 235. This is the boulder described in the original notes at this corner.

A yellow pine, 20 ins. in dia. bears N. 66° 45′ E. 48 lks. dist., marked Dar. 235 M. Colo. B. T.
A yellow pine, 24 ins. in dia., bears S. 11° 50′ E. 155 lks. dist., marked Dar. 235 M. N. M. B. T.
A yellow pine, 18 ins. in dia., bears S. 70° 00′ W. 32 lks. dist., marked Dar. 235 M. N. M. B. T.
A yellow pine, 16 ins. in dia., bears N. 11° 00′ W. 144 lks. dist., marked Dar. 235 M. Colo. B. T.

The magnetic declination at this corner is 14° 45′ E.
The position of the 235th mile corner as restored is fully supported by the large sandstone boulder, which I have marked as a bearing object, and by the topography east of this corner and by the distance to Astronomical Monument No. 8. I therefore consider this corner properly restored in its original position.

Land, mountainous.
Soil, sandy; 3rd rate.
Timber, pine, pinon and cedar.
Undergrowth, oak.

Chains

N. 89° 52′ W. on the 236th mile.
Thence across N. slope through heavy timber and scattering undergrowth.

4.30 Leave bench, bears N. N. E. and S. S. W. Descend steep W. N. W. slope.

10.10 Ravine, course N. Thence across steep N. slope, through dense undergrowth.

12.30 Small spur, slopes N. Continue along steep rolling N. [fol. 1108]

30.50 Ravine, course N. 60° E. Ascend steep E. slope.

47.70 Top of ascent, on a high rocky point at E. end of mesa. Thence along top of low ridge, bearing W. from this point.

61.40 Draw, course S. E. Enter timber, bears N. and S. Undergrowth becomes scattering. Ascend in valley.

79.46 At proportionate distance.
Set an iron post, 3 ft. long, 3 ins. dia., 24 ins. in the ground for the 236th mile corner with brass cap marked as follows:

From which

A black jack pine, 18 ins. in dia., bears N. 51° 30′ E. 39 lks. dist., marked Dar. 236 M. Colo. Bt.
A black jack pine, 14 ins. in dia., bears S. 52° 30′ E. 23 lks. dist., marked Dar. 236 M. N. M. Bt.
A black jack pine, 20 ins. in dia., bears S. 52° 45′ W. 72 lks. dist., marked Dar. 236 M. N. M. Bt.
A black jack pine, 16 ins. in dia., bears N. 72° 00′ W. 47 lks. dist., marked Dar. 236 M. Colo. Bt.
Bed of a small wash, course S. 75° E. bears S. 49 lks.

The magnetic declination at this corner is 15° 00′ E.

Land, mountainous.
Soil, sandy; 2nd rate.
Timber, pine.
Undergrowth, oak.

Chains

N. 89° 52′ W. on the 237th mile.
Ascend gradually on N. E. slope through heavy timber and scattering undergrowth.

34.50 Top of ascent. Ridge bears S. 60° E. and West.
Thence along top of ridge.
[fol. 1109]

46.50 West edge of ridge, bears N. and S. Leave ridge, and descend gradual W. slope. The edge of the mesa is 3 chs. N. at this point.

74.60 Draw, 1 ch. wide at bottom, course S. 20° E. Earth dam and pond of water, 1 ch. in dia., bears S. 250 lks dist.,
Ascend gradually across valley of draw.

79.46 At proportionate distance
Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for the 237th mile corner with brass cap marked as follows:

From which

A yellow pine, 18 ins. in dia. bears S. 41° 45′ E. 136 lks. dist., marked Dar. 237 M. N. M. Bt.
A yellow pine, 16 ins. in dia., bears S. 80° 00′ W. 29½ lks. dist., marked Dar. 237 M. N. M. Bt.
A yellow pine, 16 ins. in dia., bears N. 52° 40′ W. 139 lks. dist., marked Dar. 237 M. Colo. Bt.

No bearing tree available in the N. E. quadrant.
Build mound of stone 3 ft. base, 2 ft. high N. of cor.
Land, mountainous.
Soil, sandy; 2nd and 3rd rate.
Timber, pine.
Undergrowth, oak.

Chains

N. 89° 52′ W. on the 238th mile.
Enter scattering timber and ascend E. slope.
8.20 A black jack pine, 10 ins. in dia., marked with a large cross cut in the bark on the S. E. face, bears S. 40 lks. Slope changes. Thence over nearly level bench.
[fol. 1110]
23.80 Low ridge, bears N. and S. The edge of the mesa S. 3 chs. N. Enter dense timber. Descend W. Slope.
45.00 Leave timber and undergrowth, bears N. W. and S. E.
47.10 Center of draw, 50 lks. wide on the bottom, course S. 20° W. Ascend a gradual S. E. slope.
52.00 Enter dense timber and scattering undergrowth, bears N. E. and S. W. Ascend steep S. E. slope.
65.80 Top of ascent on ridge, bearing N. and S. The edge of the mesa bears N. 150 lks. Descend a S. W. slope.
79.46 At proportionate distance.
Set an iron post, 3 ft. long, 3 ins. dia., 24 ins. in the ground for the 238th mile corner with brass cap marked as follows:

From which

A pinon, 12 ins. in dia., bears N. 86° 00' E. 14 lks. dist., marked Dar. 238 M. Colo. Bt.
A pinon, 14 ins. in dia., bears S. 43° 00' E. 79 lks. dist., marked Dar. 238 M. N. M. Bt.
A pinon, 8 ins. dia., bears S. 62° 30' W. 42 lks. dist., marked Dar. 238 M. N. M. Bt.
A pinon, 10 ins. dia., bears N. 79° 30' W. 42 lks. dist., marked Dar. 238 M. Colo. Bt.
Land, mountainous.
Soil, sandy; 2nd rate.
Timber, pine, pinon and cedar.
Undergrowth, oak.

Chains

N. 89° 52' W. on the 239th mile.
Descend a gradual W. slope through heavy timber and scattering undergrowth.

12.10 Rimrock at west edge of mesa, bears N. E. and S. W.

[fol. 1111] Descend steep rugged N. W. slope, through dense timber.

41.50 Bed of ravine, at foot of steep descent, course N. W.
Enter scattering timber. Ascend N. E. slope.

45.10 Spur slopes N. Descend over a steep rolling N. slope.

55.70 Leave N. slope. Descend over steep N. W. slope.

61.20 Ravine, course N. W. Ascend E. slope.

63.40 Spur slopes N. W. Descend N. W. slope.

70.60 Bed of steep canyon, course N. E. Ascend steep E. S. E. slope.

79.46 As proportionate point for the 239th mile corner falls on a steep barren earth bank, where it is impossible to establish corner securely, I advance the corner to a spur ridge.
2.40 chs. to the West.
Land, mountainous.
Soil, sandy; 2nd and 3rd rate.
Timber, pinon and cedar.
Undergrowth, oak.

N. 89° 52' W. on the 240th mile.
Ascend steep N. E. slope through dense brush.

2.40 Spur ridge, slopes N. At this point I set an iron post 3 ft. long, 3 ins. in dia., 24 ins. in the ground for the Witness Corner to the 239th mile corner with brass cap marked as follows:

From which

A cross cut on a sandstone boulder 3 ft. x 3 ft. 2 ft high, bears S. 6° 10′ W. 19 lks. dist., marked B. O

A cross cut on a sandstone boulder, 4 ft. x 8 ft. 3 ft h'gh, bears S. 85° 20′ W. 32 lks. dist., marked B. O.

A cedar, 6 ins. in dia., bears N. 18° 10′ W. 106 lks. dist., marked Dar. 239 M. W. C. Cofo. Bt.

In addition to which I note the following bearings

Chains

[fol. 112] S. W. corner of stone monument at W. end of railroad bridge over the Rio Piedra at Arboles, Colo., bears N. 31° 09′ W. about ¾ mile.

A mound of stone on a mountain peak bears N. 42° 58′ E. 10 miles dist.

Highest point on sandstone boulder, on ridge bears N. 70° 21′ E. about 1 mile dist., the vertical angle to which is 1° 56′.

Thence descend steep N. W. slope, through dense timber and undergrowth.

9.70 Ravine, course N. Ascend N. E. slope.

13.95 High sharp ridge, sloping N. The west side of this ridge is a barren earth slide at the top, below which are broken ledges, large boulders and deep washes.

Descend over N. W. slope.

53.60 Ravine, at foot of slope, course N. 75° W. Thence descend in valley, on S. side of wash.

60.65 Arroyo, 30 lks. wide, course N. 10° W. Ascend N. E. slope over a low point.

61.40 Wire fence, bears N. 5° W. to a fence cor. 40 lks. N. From which corner the fence bears West.

65.10 Low spur, slopes N. W. 30 lks. to N. toe of slope.

Descend gradual N. W. slope.

66.55 Foot of slope at east edge of the San Juan Valley, bears N. 10° E. and S. 10° W. Leave timber. Thence descend gradually across smooth valley land covered with sage-brush

Chains

79.46 Find no evidence of the original corner.
At proportionate distance.
Set an iron post, 3 ft. long, 3 ins. dia., 24 ins. in the ground for the 240th mile corner with brass cap marked as follows:

[fol. 1113] The 240th mile corner falls at edge of wash, where pits would be impracticable and there are no stones for a mound of stone. I therefore note the following bearings:

West edge of boulder on ridge bears N. 41° 34′ E. about ½ mile dist., the verticle angle to which is 3° 53′.

A perpendicular ledge facing north near top of mountain bears S. 85° 26′ E., ½ mile dist., the verticle angle to which is 12° 32′.

Highest point on top of large sandstone boulder, at E. edge of valley bears S. 50° 49′ E. about 20 chs. dist., the verticle angle to which is 4° 41′.

Extreme W. edge of sandstone boulder on top of spur ridge bears S. 18° 37′ W. about 30 chs. dist., the verticle angle to which is 3° 44′.

S. end of pole-and-adobe house, bears S. 89° 28′ W. ½ mile dist.

E. edge of steel cylinder pier, under S. E. end of highway bridge over the San Juan River, bears N. 21° 18′ W. about 30 chs. dist.

Land, mountainous and level.
Soil, sandy and sandy loam; 1st to 2nd rate.
Timber, cedar and pinon.
Undergrowth, oak.

N. 89° 52′ W. on the 241st mile.
Descend gradually across the San Juan River Valley.

21.90 Wire fence, bears N. and S. Thence across road. Rosa, N. M. bears south about ½ mile.

Chains

22.58 E. end of frame building at N. E. cor. bears south 30 lks. Thence across cultivated land.

38.00 Leave cultivated land. Old irrigation ditch now dry, bears N. 30° E. and S. 30° W. Foot of descent. Thence across level valley.

41.30 W. wall of adobe house on line. The N. W. cor. of this house is 25 lks. N. of line.

41.72 Wire fence, bears N. and S.

47.26 The 90th mile corner on the Carpenter line bears North 8.88 chs.

63.40 Wire fence, bears N. and S.

64.70 Road, bears N. E. and S. W.

66.30 Road, bears N. E. and S. W.

67.03 Center of irrigation ditch, course S. 30° W. 5 lks. wide.

[fol. 1114]

69.60 Wire fence, bears N. and S.

74.02 Wire fence, bears N. 10° E. and S. 10° W. at edge of valley on bank of the San Juan River. Thence across gravel bar.

74.95 Water edge, bears N. 30° E. and S. 30° W. on left bank of San Juan River. Thence across river, course S. 30° W.

77.50 Water edge at right bank of San Juan River, bears N. 30° E. and S. 30° W. Ascend steep bluff.

79.46 The point by proportion for the 241st mile corner falls on bluff. Impossible to establish corner here.

Land, level and steep bluff
Soil, rich loam; 1st rate.
Timber, none.
Undergrowth, none.

N. 89° 52' W. on the 242nd mile.
Ascend steep gravel bank.

1.60 Top of gravel bank on a spur, sloping S. At this point I set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for a Witness Corner to the 241st mile corner with brass cap marked as follows:

From which

A pinon, 10 ins. dia., bears N. 54° 15′ E., 69 lks. dist., marked DAR 241 M WC COLO BT.

A cedar, 16 ins. in dia., bears N. 74° 18′ W., 114 lks. dist., marked DAR 241 M WC COLO BT.

A small bushy cedar, 2 ins. in dia., too bushy to be marked bears N. 47° E. 10½ lks. dist.

A granite stone 6 x 10 ins. 8 ins. above ground set in a small mound of stone at top of spur bears N. 6° 20′ E. 28 lks. dist., and is marked SD19.

No bearing trees are available south of the line.

[fol. 1115] To further preserve the location of this corner, I note the following bearings:

Perpendicular ledge, facing N. at top of mountain bears S. 87° 58′ E. about 1½ miles dist.

N. E. Cor. of adobe church at Rosa, N. M. bears S. 42° 16′ E. about 1 mile dist.

Lone cedar tree on peak bears S. 0° 15′ W. about 4 miles dist.

E. edge of overhanging ledge on E. side of top of a small peak, bears S. 26° 36′ W. about 6 miles dist.

This Witness Corner stands on S. slope about 10 ft. below top of bank.

Thence descend steep S. W. slope.

Chains	
3.50	Ravine, course S. E. Ascend steep N. E. slope.
4.95	Top of bank, bears N. N. W. and S. S. E. Thence ascend gradually over bench land.
8.44	Evidence of an old Indian Trail, bears N. N. E. and S. S. W. at top of ascent. Thence descend gradually over N. W. slope.
12.40	Fence cor. bears N. 12 lks. from which one fence bears North and one East.
14.00	Top of bank, bears N. and S. Leave bench land. Descend N. W. slope.
16.25	Ravine, course S. W. Ascend S. E. slope.
17.75	Top of ascent on spur sloping S. W. Descend W. S. W. slope.
21.55	Intersect the 8th Astronomical Monument which is a nearly rectangular shaft of sandstone 9 x 11 ins. at the base and sloping to 5 x 8 ins. at the top, extending 40 ins. above ground firmly set with a mound of stone, 6 ft. base 2 ft. high, around the base of the corner stone, marked

COLORADO on the N. face.

NEW MEXICO on the S. face.

1868 on the E. face.

37° N. L. on the W. face.

From which

Conical peak, bears N. 12° 51′ W. about 8 miles dist.
Conical peak with lone tree on top, bears S. 4° 25′ E. about 4 miles dist.
Timbered peak bears S. 2° 35′ W. about 4 miles dist.
[fol. 1116] Point of timbered ridge, bears S. 12° 22′ W. about 7 miles dist.
The San Juan Valley (indefinite) bears S. 9° 45′ W. about ½ miles dist.

The objects observed in these bearings are the objects observed in the original survey. From the bearing observed and from the position of the corner, I am convinced that this is the original corner monument and that it is standing in its original position.

As there are no bearing trees or bearing objects near the 8th Astronomical Monument I note the following topography west, and south of the Monument to aid in preserving its location.

West from Astronomical Monument No. 8:
0.90 Old Road, bears N. N. W. and S. S. E.
3.35 Left bank of ravine 4 ft. high bears N. N. E. and S. S. W.
3.65 Stream in ravine 3 lks. wide, course S. 60 W. just north of point where the stream turns to the south.

South from Astronomical Monument No. 8:
1.56 Old road, bears S. 70° E. and N. 30 W.
2.74 Center of stream, 2 lks. wide, course E. S. E.
Land, level and broken.
Soil, sandy; 2nd rate.
Timber, pinon and cedar.
Undergrowth, none.

Accuracy of this Restoration Survey

As this resurvey and restoration was made with only one set of chainmen great care was exercised to obtain correct *results;* to demonstrate the accuracy of which the following table is submitted, giving a comparison of the chaining by the Carpenter line and by the restored Darling line:

[fol. 1117]

Carpenter's corners	Point on restored Darling line opposite Carpenter's cor.		Departure between Carpenter cors.				Difference in lat. between Carpenter and Darling line, chs.
			By the Carpenter line		By the restored Darling line		
	Mile cor.	Chs: west	Miles	Chs.	Miles	Chs	
125 M.	206 M.	54.52					
118.1	213 M.	50.82	6 M.	72.00	6 M.	72.25	56.44
114.9	216 M.	65.50	3 M.	16.00	3 M.	18.47	13.87
113	218 M.	30.02	1 M.	72.00	1 M.	72.00	13.68
107.025	223 M.	38.02	5 M.	78.00	5 M.	77.82	13.28
100	230 M.	41.39	7 M.	2.00	7 M.	2.35	12.90
90	240 M.	47.26	10 M.	0.00	9 M.	77.01	11.86
			.....	.....	.....	.....	8.88
Total Departure			35 M.	0.00	34 M.	79.90	

The fact that the Carpenter line and the Restored Darling line converge going west, was observed in the field, and great care was exercised to obtain the correct bearings for the restored Darling line.

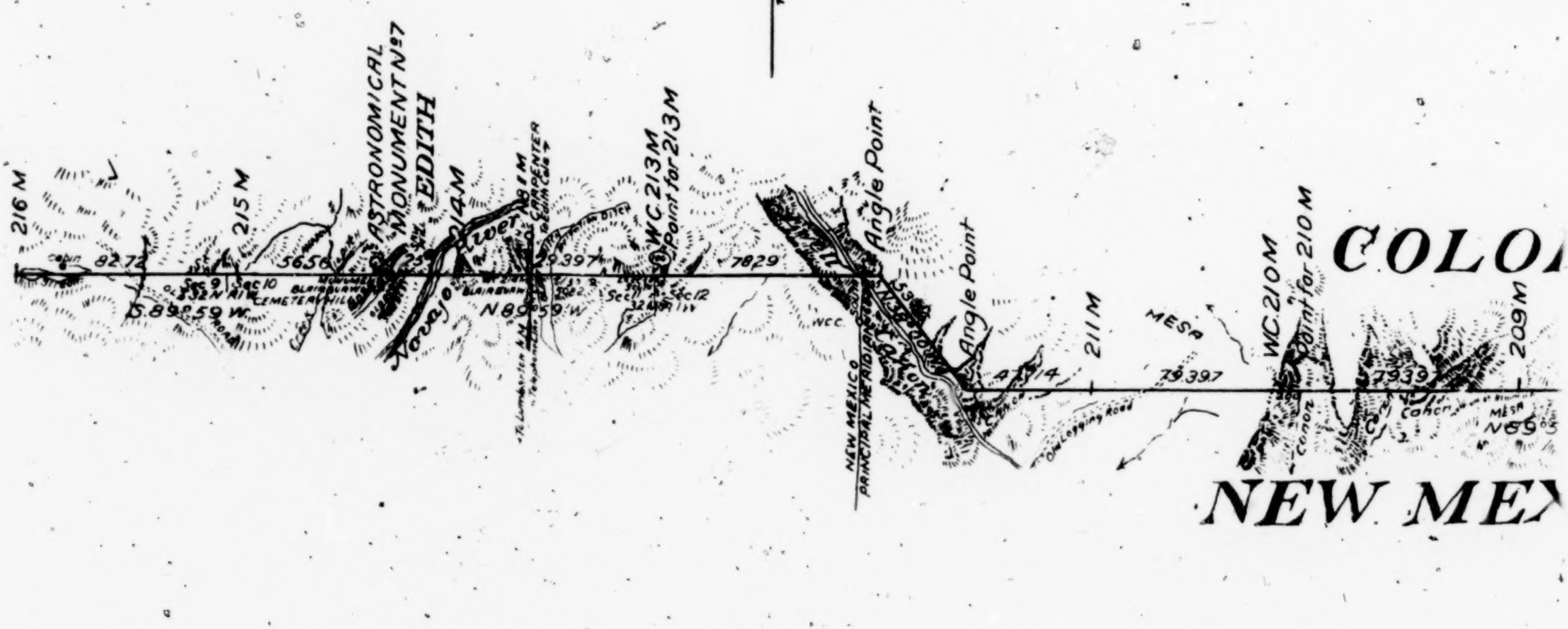
Certificate

I hereby certify that this plat is in strict conformity to the field notes of the restoration and Resurvey of that portion of the Original Boundary Line between Colorado and New Mexico embraced between the 203rd Mile Cor. and the 8th Astronomical Monument as surveyed by Ehud N. Darling Surveyor and Astronomer in the year 1868. Resurveyed under authority of the Hon. Commissioner of the General Land Office by letter 650496 "E" CGT, dated May 23. 1917, addressed to Frank M. Johnson, Supervisor of Surveys.

U.S. Surveyor Generals Office
Santa Fe. N. M., February 7, 1918.

Louis Dills
U.S. Sur. General

Plat showing Restor
COLORADO-NEW
As surveyed by Wm C.
Under Instructio

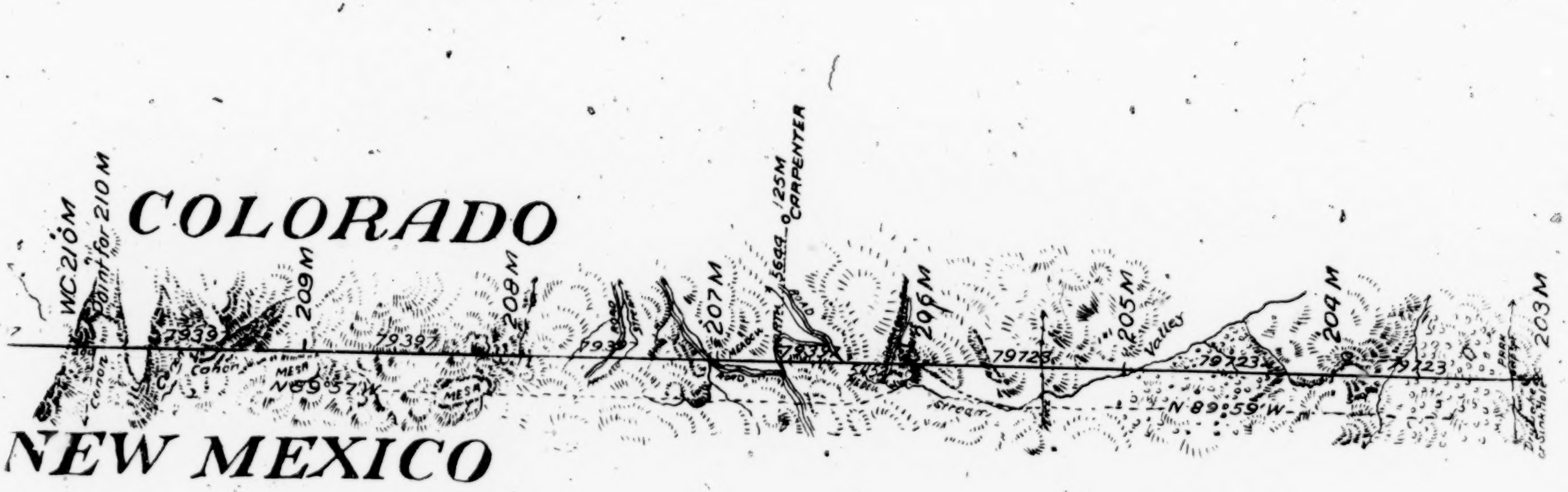


wing Restoralion and Resurvey of a portion of the

IDO-NEW MEXICO BOUNDARY LINE

eyed by Wm C. Perkins. U.S. Surveyor, Sep. 2-Nov. 3, 1917.
der Instructions for Group 79, Dated April 27. 1917

Scale; 40 Chs-1 inch



[fol. 1118] Certificate

I hereby certify that the foregoing pages numbered 1 to 86 inclusive, are a true and exact copy of the pages 8 to 98 inclusive, of the original field notes of the resurvey and restoration of that portion of the original boundary line between Colorado and New Mexico, embraced between the 203rd M. cor and the 7th Astronomical Monument, as surveyed by Ehud N. Darling, surveyor and astronomer, in the year 1868, on file in the Surveyor General's office, Santa Fe, New Mexico.

Manuel A. Sanchez, U. S. Surveyor General. (Seal of United States Surveyor General's Office, New Mexico.)

U. S. Surveyor General's Office, Santa Fe, New Mexico, September 11, 1922.

(Here follows Plaintiff's Exhibit No. 12, marked side folio page 1119.)

[fol. 1120] Plaintiff's Exhibit No. 13

Department of the Interior

General Land Office

Office of the Supervisor of Surveys

Denver, Colorado

August 3, 1917.

Mr. Justice Frank W. Parker, Chairman New Mexico Boundary Commission, Santa Fe, New Mexico.

Dear Sir: Certain public surveys in New Mexico are shortly to be closed on the Colorado-New Mexico boundary line through R. 1 E., and Rs. 1, 2, 3, & 4 W., N. M. P. M. Owing to the unusual survey conditions along the boundary it will be necessary to re-establish about 30 miles of the line in order to permit of the proper public land survey closure thereon. It is with a view to securing the concurrence of the state authorities of Colorado and New Mexico in the proposed relocation to the end that the General Land Office may proceed upon the reasonable presumption that confirmation will follow in due course, that I am writing you.

It will be recalled that pursuant to authority of an act of Congress approved March 2, 1867 (14 Stats. 466) E. N. Darling, U. S. Surveyor and Astronomer, in the year 1868 established the 37th parallel of north latitude so far as it constitutes the boundary line between Colorado and New Mexico. Public surveys were closed [fol. 1121] thereon, lands were disposed of, rights were acquired and private and political boundaries were fixed in both Colorado and

New Mexico with consideration of the fact that the Darling li
had been established and monumented as the northern bounda
of New Mexico, adopted and ratified as the southern boundary
Colorado, and accepted by the Federal government as the leg
boundary between the two states.

Subsequent investigations of public land survey conditions in t
Navajo River Valley in the vicinity of Edith, Colorado, and esp
cially those made by the General Land Office in 1899, 1900 an
1901, for the purpose of determining the status of certain alleg
conflicts of lands patented to or entered by settlers under the Col
rado and New Mexico official plats, disclosed the fact that in add
tion to the extensive obliteration of monuments, gross errors
alinement, measurement and position existed in the Darling lin
between the 6th and 8th astronomical monuments and that thes
errors were largely responsible for the overlap in the Colorado an
New Mexico public land surveys and the resultant conflict of claim
on the ground.

About this time the state of Colorado which was cognizant of th
general survey conditions as regarded the boundary in the localit
[fol. 1122] of Edith and with desire to correct the error and thereb
not only fix the south boundary of the state at this particular plac
but to establish the southern limits of Archuleta County and th
several school districts and voting precincts therein, made appro
priation for the reestablishment of the south boundary of Colorad
between the 6th and 8th astronomical monuments of the Darli
line. This resurvey was made without representation by the Federa
government on behalf of the (then) Territory of New Mexico an
was never approved, nor indeed was it ever presented to the govern
ment for approval.

As a result of these disclosures of the condition of the Darling
line, Congress by act of July 1, 1902 (32 Stats., 552, 574) author
ized the resurvey of the entire boundary line between the state of
Colorado and the territories of New Mexico and Oklahoma. This
resurvey which was executed by H. B. Carpenter, U. S. Surveyor
and Astronomer, in 1902 and 1903, consisted of a new fixation of
the 37th parallel of north latitude independent of the line estab-
lished by Darling in 1868. The Carpenter and the Darling lines
do not agree with one another as to position except perhaps at the
initial point, nor do they bear consistent relation to one another
throughout their course. The Carpenter line is nearly a half a mile
north of the Darling line in certain places and considerably south
of it in others. The Carpenter line, however, while established in
[fol. 1123] accordance with the statutory requirements, has never
been confirmed by Congress or the jurisdictions affected. The Senate
joint resolution No. 78, 60th Congress, First Session, entitled "Joint
Resolution Establishing the Boundary Line between the States of
Colorado and Oklahoma and the Territory of New Mexico" was
vetoed by President Roosevelt December 19, 1908, and on the
same day the veto message was laid on the table in the Senate, since
which time Congress has taken no further action in reference thereto.

It would therefore seem and it is so held by the General Land

Office in all matters coming before that office involving questions of jurisdiction that the Darling line of 1868 is the subsisting boundary line between the states.

Therefore, aside from every other consideration the Darling line of 1868, by reason of the failure of confirmation of the Carpenter line of 1902 and 1903, is the subsisting boundary line between Colorado and New Mexico, and is consequently the proper closing line for public surveys in both states now as it has been in the past. However, owing to its extensive obliteration and the magnitude and peculiarity of some of the errors of the original survey the necessity for the reestablishment of about thirty miles of the line through [fol. 1124] R. 1 E., and Rs. 1, 2, 3 and 4 W., N. M. P. M. is now urgent, in order to permit of the closure thereon of certain new public surveys about to be undertaken in New Mexico. The question is as to the method of reestablishment.

The Darling line contains an offset or "jog" of about 37.00 chs. in the vicinity of the 212th mile corner (a few miles east of Edith) due to the original surveyor's failure to correct his line back to astronomical monument No. 6 after finding by observation for latitude at astronomical monument No. 7 that he was about 37.00 chs. south of the 37th parallel of north latitude. After moving up to the parallel the line was corrected and monumented eastward to Ewell Canon a few miles distant and the monuments on that portion of the original southern line, west of Ewell Canon, were obliterated. The jog in the boundary, therefore, occurs in Ewell Canon, a deep rugged gorge a few miles east of Edith, Colorado, although there is an overlap in the public surveys of Colorado and New Mexico between the cañon and the Navajo river, caused no doubt by the uncertainty of position of the closing line in that locality.

It should be stated here that investigation made in the field as late as last fall further confirms the existence of conditions as set [fol. 1125] forth above and develops the fact of additional conflicts of claims in R. 4 W., due to a recognition by the surveyor in charge of the Carpenter line of 1902 as the state boundary. This latter fact is important in that it emphasizes the necessity of settling the boundary question at an early date.

After careful consideration of all the various features of the case the conclusion has been reached that the only equitable basis of restoration of that portion of the boundary in question would be the perpetuation of the existing line from the east to the 206th mile monument—the last identified state line corner east of the cañon—thence due west to Ewell Canon; and the restoration of the line from astronomical monument No. 8 through identified 215th and 217th mile corners and identified position of astronomical monument No. 7, thence due east to Ewell Canon. This restoration actually restores the line as marked on the ground, disturbs in least degree the public surveys on both sides of the line and places the unavoidable "jog" in a deep, rugged cañon with small opportunity to cause misunderstanding and confusion.

I enclose a blue print of a rough sketch of the Darling line as it is today.

May I not request that you give this matter your early attention, or if not properly under your jurisdiction that you refer it to the [fol. 1126] proper authorities to the end that I receive an expression of the attitude of the State, first, towards recognition of the Darling line of 1868 as the boundary line between Colorado and New Mexico, and second, if the Darling line is considered the subsisting boundary, towards the method of restoration of thirty miles thereof for the purpose of permitting closure of New Mexico public surveys thereon.

Mr. Alonzo E. Compton, Assistant Supervisor of Surveys, with headquarters at Santa Fe is thoroughly familiar with the situation and will be glad to give such information and advice concerning the line as you may require.

Yours very truly, Frank M. Johnson, Supervisor of Surveys.

RCM.

(Here follows diagram, marked side folio page 1127.)

[fol. 1128] PLAINTIFF'S EXHIBIT No. 14

House of Representatives, 57th Congress, 1st Session
Document No. 604

Survey of Boundaries of Colorado, New Mexico, and Oklahoma

Letter from the Secretary of the Treasury Transmitting a Copy of a Communication from the Secretary of the Interior, Submitting an Estimate of Appropriation for Survey of Boundaries of Colorado, New Mexico, and Oklahoma.

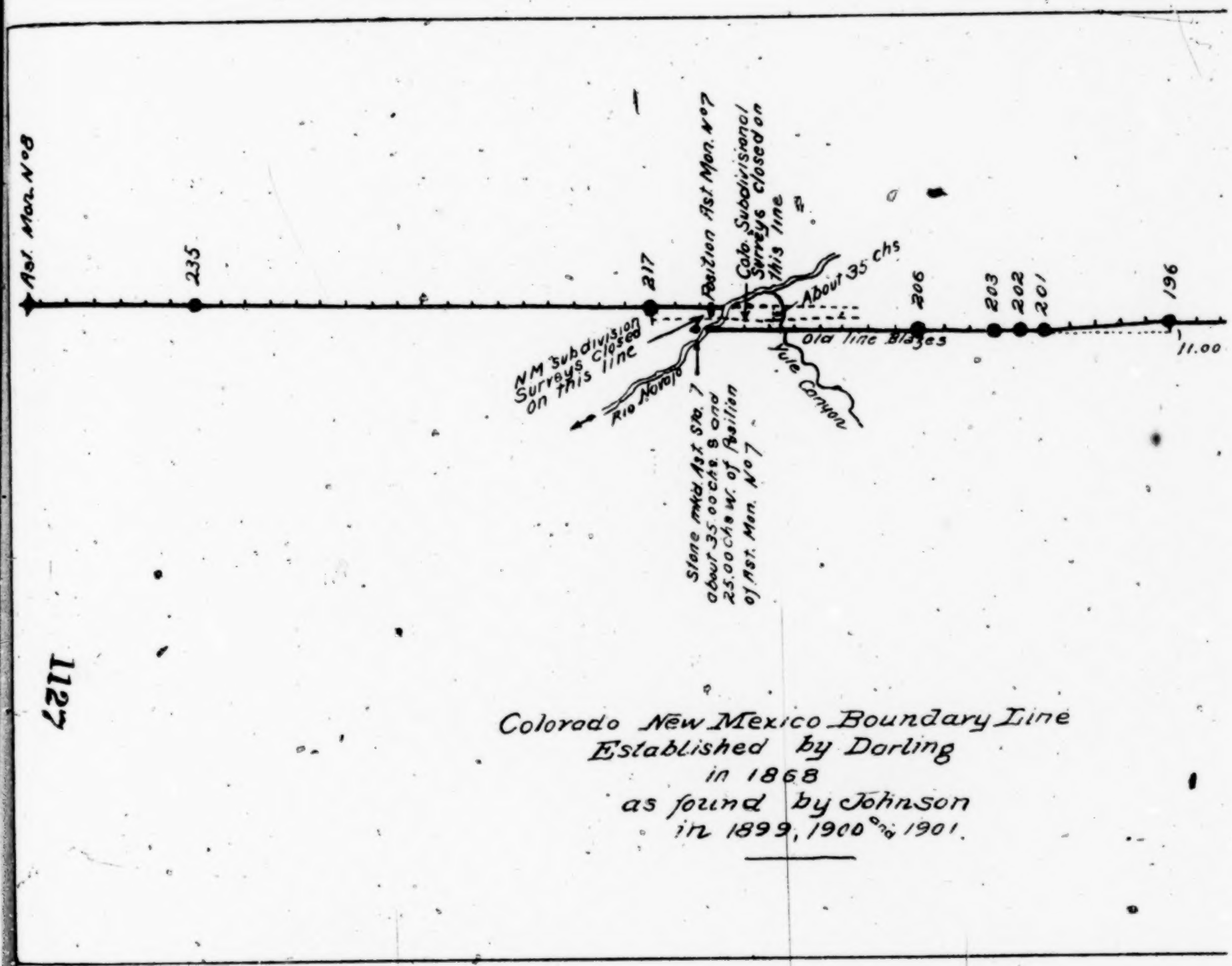
May 14, 1902.—Referred to the Committee on Appropriations and ordered to be printed.

Treasury Department,
Office of the Secretary,
Washington, May 13, 1902.

SIR: I have the honor to transmit herewith, for the consideration of Congress, copy of a communication from the Secretary of the Interior, of this date, submitting an estimate of appropriation for resurvey of the entire boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, to be immediately available and to continue available until expended, $31,500.

Respectfully, L. M. Shaw, Secretary.

The Speaker of the House of Representatives.



1127

Colorodo New Mexico Boundary Line
Established by Darling
in 1868
as found by Johnson
in 1899, 1900 and 1901.

Department of the Interior.
Washington, May 13, 1902.

SIR: I have the honor to transmit herewith a communication from the Commissioner of the General Land Office, dated the 10th instant, transmitting an estimate of $31,500 for the resurvey of the entire boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, to be immediately available and continue available until expended.

This estimate has my approval, and the same is respectfully forwarded through your Department for the appropriate action of Congress.

Respectfully, Thos. Ryan, Acting Secretary.

The Secretary of the Treasury.

[fol. 1129]

Department of the Interior,
General Land Office,
Washington, D. C., May 10, 1902.

SIR: I have the honor to acknowledge the receipt of your letter of the 9th instant returning report of F. M. Johnson, examiner of surveys, in regard to the south boundary of Colorado, together with office communication of April 30, 1902, transmitting the said report, as also the letter of A. M. Stevenson, of Denver, Colo., dated November 23, 1901, and office letter "E," of December 11, 1901, reporting upon the same.

You instruct this office to prepare and submit an estimate of the resurvey of the entire boundary line between the State of Colorado and Territories of New Mexico and Oklahoma.

In compliance with your directions, I now transmit estimate in duplicate for the resurvey of said line, which estimate is for a calculated distance of 387½ miles at $75 per mile, to which is added the cost of a field examination.

Binger Herman, Commissioner.

The Secretary of the Interior.

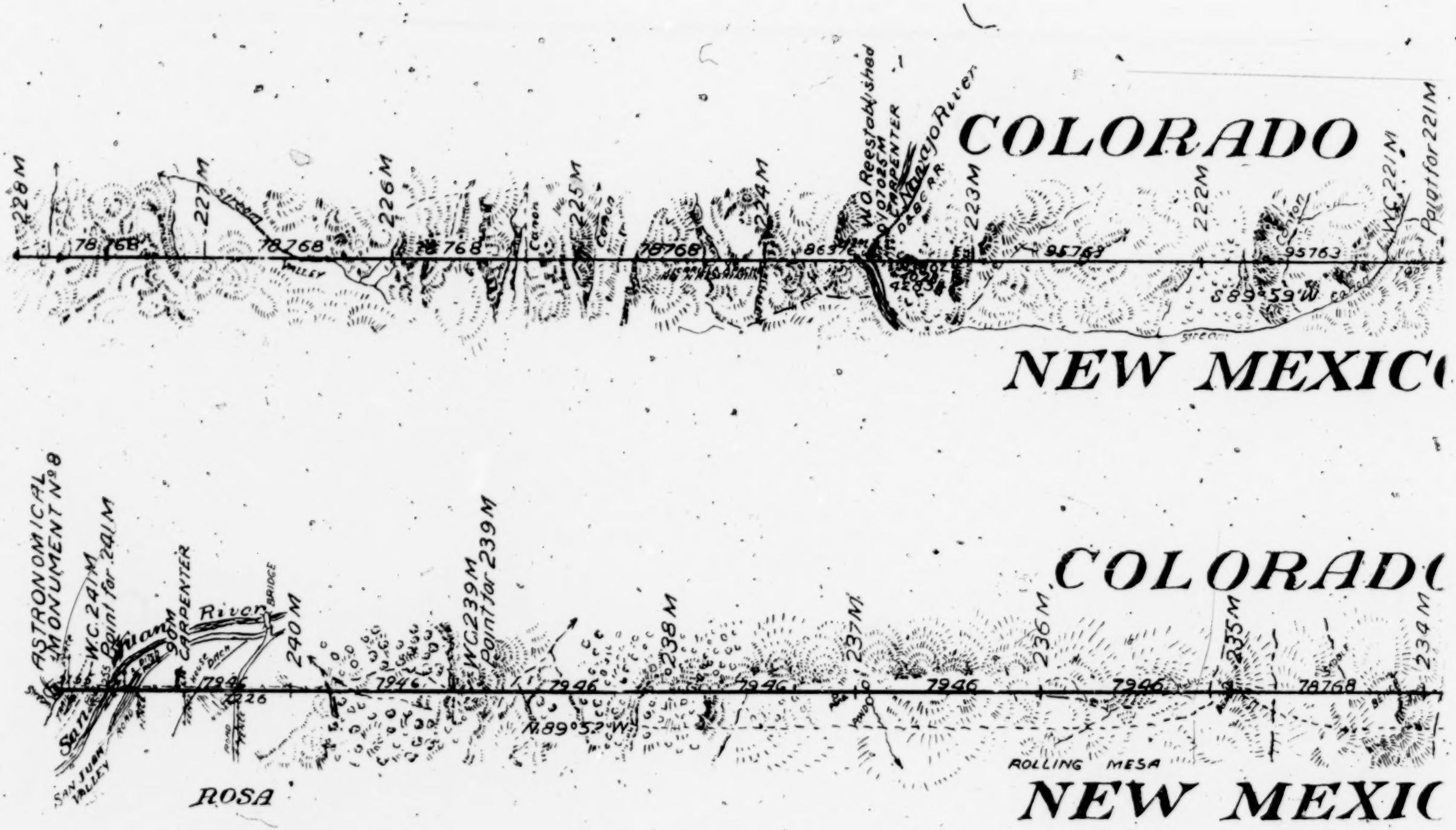
Estimates of Appropriations Required for the Service of the Fiscal Year Ending June 30, 1902, by the General Land Office

Interior Department

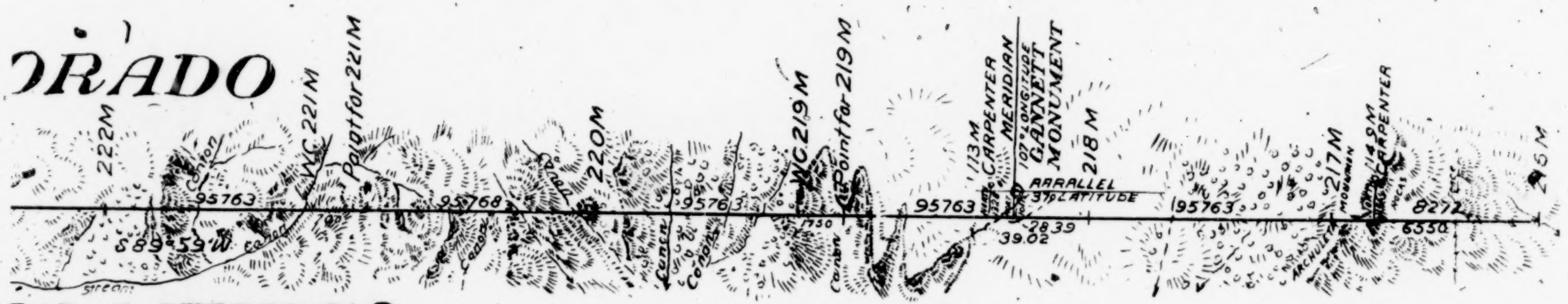
Surveying the Public Lands

Resurvey of south boundary of Colorado:

For the resurvey and reestablishment—on the line of the thirty-seventh parallel of north latitude—of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, which is coincident with said parallel between the twenty-fifth and thirty-second degrees of west longitude from Washington, at a rate per mile to be fixed by the Secretary of the Interior, and for the examination in the field of said resurvey, a calculated distance of



Plaintiff's
Exhibit No. 12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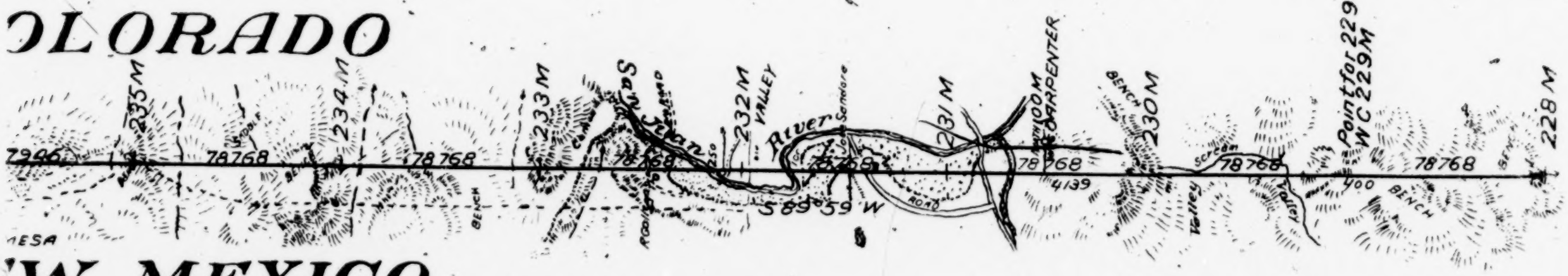
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387½ miles, to be immediately available and continued available until expended (submitted) $31,500.

NOTE.—Attention is called to the fact that the legislature of Colorado passed an act authorizing (act approved April 11, 1901) the governor of said State to ask the Department of the Interior "to find and determine by appropriate proceedings and surveys and astronomical observations" a considerable portion of the south boundary of said State. This work being only temporary and provisional until, as stated in said act of the legislature, "such time as the Government of the United States shall fully resurvey and reestablish said line," the Department declined to resurvey the portion asked for. From a report received by the Commissioner of the General Land Office in April, 1902, by an examiner of surveys, it was found that on the 62 miles inspected of this line but few corners now remain on the line originally surveyed in 1868, and that the line was evidently erroneously established between identified monuments. This being the case, it is fair to presume other portions of the boundary are not correctly established on the true parallel. The report having been so recently received, and the necessity for an immediate reascertainment and resurvey being so urgent, in order to have the entire line reestablished by the most accurate scientific means available, this estimate is submitted as a deficiency.

[fol. 1130] PLAINTIFF'S EXHIBIT NO. 15

Senate, 58th Congress, 3d Session

Document No. 89

Re-establishment of Boundary Line Between Colorado and New Mexico and Oklahoma

Message from the President of the United States Transmitting a Communication from the Secretary of the Interior Relative to the Reestablishment of the Boundary Line Between the State of Colorado and the Territories of New Mexico and Oklahoma, Surveyed Under Authority of the Act of Congress of July 1, 1902

January 10, 1905.—Read, referred to the Committee on Territories, and ordered to be printed.

To the Senate and House of Representatives:

I transmit herewith, for the consideration of the Congress, a communication from the Secretary of the Interior relative to the reestablishment of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, surveyed under authority of the act of Congress of July 1, 1902 (32 Stat., 552, 574).

Theodore Roosevelt.

White House, January 10, 1905.

Department of the Interior,
Washington, January 7, 1905.

The President:

I transmit herewith a communication from the Commissioner of the General Land Office dated December 3, 1904, with accompanying papers, relative to the reestablishment of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, by Howard B. Carpenter, United States surveyor and astronomer, under authority of the act of Congress of July 1, 1902 (32 Stat., 552, 574).

[fol. 1131] Certain conditions have been developed in the reestablishment of this line that in the opinion of this Department requires consideration by Congress.

In the enabling act under which Colorado was admitted into the Union, the thirty-seventh parallel of north latitude was designated as the south boundary of said State, and was surveyed and marked by monuments in 1868 by Ehud N. Darling. Owing to reported inaccuracy of this survey, and the absence of many of the monuments, an appropriation was made in the act of July 1, 1902.

For the resurvey and reestablishment, on the line of the thirty-seventh parallel of north latitude, of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, which is coincident with said parallel between the twenty-fifth and thirty-second degrees of west longitude from Washington.

The thirty-seventh parallel of north latitude, as established by Howard B. Carpenter under authority of said act, passes through several towns lying wholly within the State of Colorado, according to the supposed boundary as originally surveyed, and along the entire line there is a material and, in many places, excessive variance between the lines of the two surveys.

The State of Colorado, by act of general assembly of April 11, 1901, authorized the appointment of a commissioner to act in conjunction with representatives of the General Government and of the adjacent Territories for the purpose of fixing and determining a part of said south boundary upon the line theretofore surveyed and established by Darling, but it does not appear that any further action was taken looking to fixing said boundary by such commission, as contemplated by said act. The act under which Carpenter's survey was made provided for the reestablishment of the entire south boundary, "on the line of the thirty-seventh parallel of north latitude."

A more comprehensive statement as to the variance between the two lines of survey is contained in the letters of the Commissioner of the General Land Office transmitted herewith.

As the reestablishment of said south boundary excludes a strip of territory over which the State of Colorado has heretofore exercised sovereign jurisdiction, I respectfully recommend that the matter be submitted to Congress for its consideration.

Very respectfully, E. A. Hitchcock, Secretary.

Department of the Interior,
General Land Office,
Washington, D. C., December 3, 1904.

SIR: I have the honor to acknowledge the receipt of your letter of June 3, 1904, directing that a full report be made of the resurvey and reestablishment of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, on the line of the thirty-seventh parallel of north latitude, executed by Howard B. Carpenter, United States surveyor and astronomer, under authority of the act of Congress of July 1, 1902 (32 Stat., 574).

[fol. 1132] In reply, I have the honor to report that by the act of February 28, 1861 (12 Stat., 172), entitled "An act to provide a temporary government for the Territory of Colorado," the south boundary of Colorado was fixed as the thirty-seventh parallel of latitude between the twenty-fifth and thirty-second meridians of longitude west of Washington.

The initial determination of the location of the thirty-seventh parallel of latitude in the locality mentioned was made in 1857, under the direction of Col. Joseph E. Johnston, U. S. Army, who established the same as far west as his determination of the one hundred and third meridian west of Greenwich, said meridian being the legal east boundary of New Mexico. In 1859 Captain Macomb, U. S. Army, under orders from the War Department, established a new monument at a point 11,582 feet east of the Johnston monument because of errors made in Colonel Johnston's determination, and in 1868 Ehud N. Darling, United States surveyor and astronomer, under contract with this office, established the north boundary of New Mexico from the Macomb monument west to the one hundred and ninth meridian, on the thirty-seventh parallel of latitude, as determined by a series of astronomical observations and calculations. Mile corners are reported to have been established on the line wherever the nature of the country would permit for a distance of 331¾ miles. Some of the country traversed by this line, however, was reported as too rough to chain, and triangulation was resorted to in order to carry the line forward and witness corners were established thereon at accessible points, thus leaving wide stretches of the line in certain places unmarked in any manner.

In 1873 it became necessary to establish the east boundary of the Southern Ute Indian Reservation in Colorado, the same being the one hundred and seventh meridian as extended north from the thirty-seventh parallel, the south boundary of the State. Under instructions from this Office, R. C. Darling, United States surveyor, established at a point on the E. N. Darling line the southeast corner of the said reservation estimated as on the one hundred and seventh meridian. A question having arisen as to the correctness of such location, S. S. Gannett, of the Geological Survey, in 1897 determined for the Indian Office the true location of the said reservation corner by astronomical observations.

This attempt to find a public land corner with which to connect his determination having developed the absence of such corners, an ex-

tended examination of the E. N. Darling line both east and west thereof was made by Frank M. Johnson, examiner of surveys, under the direction of this Office. As a result of his investigations it became apparent that in that locality very few traces of the boundary line as established by E. N. Darling were to be found, and such as were found were not by any means on the same parallel of latitude.

The fact was developed that Darling's astronomical station No. 7, which was established near the present town of Edith, was lost, and while its approximate location was fixed by the bearings to the several mountain peaks reported by Darling no trace of the monument itself remained.

These astronomical monuments were established by Darling as a result of a series of astronomical observations for latitude, and between these monuments the parallel was marked by corners either at [fol. 1133] mile points, or when the nature of the country was such as not to permit the corners to be so established, then witness corners were established at accessible points.

Astronomical monument No. 6 was established at a distance of 34 miles east of No. 7, and astronomical monument No. 8 at a distance of 27 miles west of No. 7. From astronomical monument No. 6, Examiner Johnson, in 1900, identified the Darling line westward for a distance of 15 miles, at which point all traces of the old line were lost and could not be identified in any manner, the topography not agreeing with the original notes in any particular, the old blazes disappearing and the country not being that described in the Darling field notes. The first corner identified west of this point was at a distance of about 5 miles, where an old corner was found, much decayed and lying on the ground, but identified as being in its original location by the bearing trees. This mile corner was about 11 chains south of the last trace of the line found to the east, and from it a portion of the line for a distance of about 5 miles was identified, beyond which, to the west, all traces of the mile corners had disappeared. Indications of a line were found only by means of old blazes on trees and topographic features, which themselves disappeared as the line approached the location of astronomical monument No. 7.

When this latter point was reached, there was a difference of nearly half a mile in the locations of the line brought from the east and of the point, identified as the most probable location of the monument itself, which, as before stated, had been lost. From this location west to astronomical monument No. 8 the corners established by Darling were few in number, on account of the alleged precipitous character of the country over which the line ran. Long triangulations were used, and in the distance of some 27 miles only 9 corners were established. Of these 9 corners, partial identification was made of 2 only, and upon these facts being reported to the Department, this office was directed, by letter dated May 9, 1902, to furnish an estimate for the resurvey and reestablishment of the thirty-seventh parallel between the twenty-fifth and thirty-second degree of longitude, in order that the same might be submitted to Congress.

Such estimate was submitted May 10, 1902, and by the act of July 1, 1902 (supra), an appropriation was made of $[illegible],500.

for the resurvey and reestablishment, on the line of the thirty-seventh parallel of north latitude, of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, which is coincident with said parallel between the twenty-fifth and thirty-second degrees of west longitude from Washington, at a rate per mile to be fixed by the Secretary of the Interior, and for the examination in the field of said resurvey, a calculated distance of three hundred and eighty-seven and one-eighth miles.

Under this authority a contract was entered into July 7, 1902, with Howard B. Carpenter, United States surveyor and astronomer, for the execution of the required survey and reestablishment. The work was commenced in September, 1902, and completed in October, 1903.

Nine stations were occupied and at each a series of astronomical observations for latitude were made by the most approved methods, astronomical monuments were placed on the line, and the parallel was established between the astronomical monuments. Mile corners were established and marked by durable iron pipes 4 feet long, with flanges at the bottom, set 2 feet in the ground and surmounted by a brass cap with suitable markings stamped thereon to indicate their location. [fol. 1134] The location of the monuments established by E. N. Darling in 1868 and found by H. B. Carpenter were noted and the markings thereon were then destroyed. The line was carried by Carpenter from the west to the east and, while on certain portions of the line the corners established by Darling were found, the fact was developed that in other portions no evidences of the Darling line remained for intervals of 10 or 15 miles, and in one instance a distance of 50 miles interval without any evidences of the Darling line.

Several settlements and towns of importance were found near or on the resurveyed parallel, the most important of which was the town of Edith, in the vicinity of which one of Darling's astronomical monuments was established. An astronomical station was located by Carpenter just west of this town and the parallel was found to cross the main street thereof, leaving the larger part of the town south of the line. In the vicinity of La Boca the line was found to pass between the station on the railroad and the settlement.

The Gannett monument was found only 3 chains south of the parallel, but none of the Darling monuments were found east or west thereof nearer than 25 miles.

West of this monument such old corners as were identified were from 5 to 10 chains south of the reestablished parallel, but east thereof the first of the old corners was found at a distance of half a mile south. This difference between the lines gradually diminished toward the east until the reestablished line passed to the south of the old line, but again crossed to the north, and when the west boundary of the State of Kansas was reached, the reestablished parallel was found to be one-half mile north of the southwest corner of the State.

Based upon these conditions, this office, by letter dated May 24, 1904, submitted a report to the Department setting forth the legal aspect of the changes made in the boundary line between the State

of Colorado and the Territories of New Mexico and Oklahoma, and I have the honor to renew the recommendations made therein.

Very respectfully, J. H. Fimple, Acting Commissioner.

The Secretary of the Interior.

Department of the Interior,
General Land Office,
Washington, D. C., July 2, 1902.

SIR: In accordance with an estimate regularly submitted, an appropriation was made in the general deficiency bill for the resurvey of the south boundary of Colorado at a rate per mile to be fixed by the Secretary of the Interior.

This line was originally surveyed in 1868 and its location has been in dispute for several years owing to the almost entire obliteration of all corners. At its last session the legislature of Colorado passed an act requesting its resurvey by the General Government, and an extensive examination made by this office proved this to be a necessity.

As the location of one town and of many settlers will be in doubt until this line is resurveyed, which may result in serious complications in election matters, as has been the case in the past, and which caused the legislature of Colorado to take action in the matter, it is necessary that this resurvey should be made as soon as possible.

I therefore respectfully request to be authorized to enter into a contract with Howard B. Carpenter to make this resurvey at the rate of $75 per mile, which is the figure upon which the estimate was [fol. 1135] based and which is considered to be reasonable for a survey of this character in a country mostly mountainous. Mr. Carpenter has recently completed the survey of the boundary line between Utah and Arizona in a manner that is entirely satisfactory to this office. The natural obstacles encountered upon this line were greater than those found upon any similar line surveyed under this office, notwithstanding which the survey was completed within the specified time, and a critical examination of both the field and astronomical work proves both to have been done in an excellent manner and the survey to be one of the best ever executed under this office. Mr. Carpenter desires to make this resurvey and is prepared to enter upon the work without delay.

Very respectfully, Binger Hermann, Commissioner.

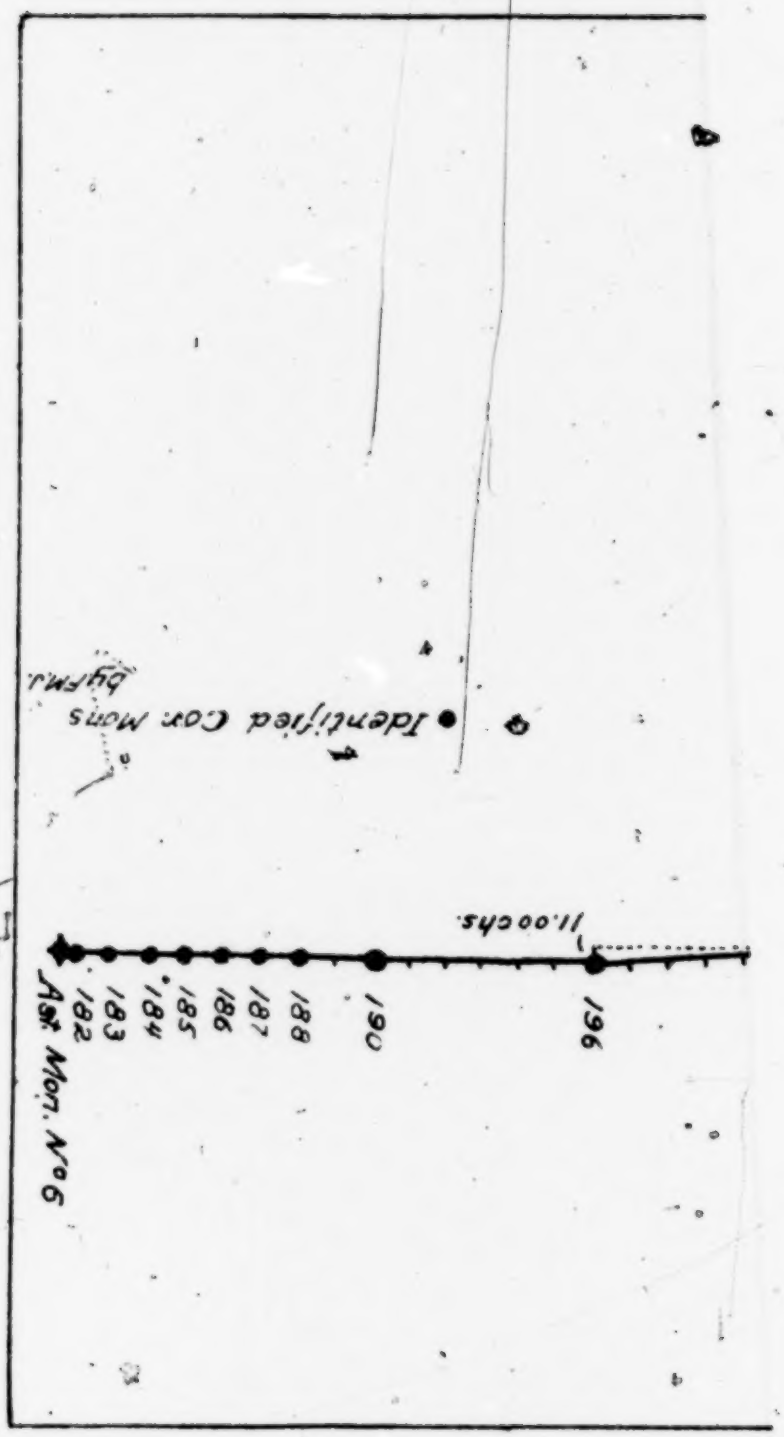
The Secretary of the Interior.

Department of the Interior, July 3, 1902.

SIR: Referring to your office letter of the 2d instant, relative to the above-entitled subject, you are advised that in accordance with your request you are hereby authorized to enter into a contract with Howard B. Carpenter to make the resurvey of the south boundary of Colorado, at the rate of $75 per mile.

Very respectfully, ——, Secretary.

The Commissioner of the General Land Office.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Department of the Interior,
General Land Office,
Washington, D. C., December 3, 1902.

SIR: The act of Congress approved July 1, 1902, making appropriations to supply deficiencies in the appropriations for the fiscal year ending June 30, 1902, and for prior years and other purposes (32 Stats., 552), under head of "Public land service" (p. 574), provides inter alia as follows:

"Boundary line, Colorado, New Mexico, and Oklahoma: For the resurvey and reestablishment, on the line of the thirty-seventh parallel of north latitude, of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, which is coincident with said parallel between the twenty-fifth and thirty-second degrees of west longitude from Washington, at a rate per mile to be fixed by the Secretary of the Interior, and for the examination in the field of said resurvey, a calculated distance of three hundred and eighty-seven and one-eighth miles, to continue available during the fiscal year nineteen hundred and three, thirty-one thousand five hundred dollars."

Concurring in the recommendation of this office per letter of July 2, 1902, the Secretary of the Interior, under date of July 3, 1902, authorized this office to enter into a contract with Howard B. Carpenter providing for the resurvey of the south boundary of Colorado, at the rate of $75 per mile.

Said contract was duly awarded July 7, 1902, to Howard B. Carpenter, United States surveyor, and provided for the resurvey of the boundary line between Colorado, New Mexico, and Oklahoma; liability, $29,000, payable from the quoted appropriation.

In acknowledging, per letter of October 25, 1902, the receipt of the "original" form of contract and bond awarded Howard B. Carpenter, United States surveyor, the Auditor of the Treasury for the Interior Department called the attention of this office to the terms of the act making the quoted appropriation, and held that in the opinion of his office said appropriation "is not available and can not lawfully be used after the end of the current fiscal year (June 30, 1903) to pay for the survey as contracted for or for the field examination of the same."

By office letter of October 30, 1902, Howard B. Carpenter, United States surveyor, was advised of the construction placed on the terms of the stated appropriation by the Auditor of the Treasury for the Interior Department, and was requested to report as to the present status of the resurveys embodied in his contract of July 1, 1902, and [fol. 1136] whether or not he would be able to complete the work and make due return thereof within the stipulated time (June 30, 1903). A copy of said letter is herewith inclosed.

This office is now in receipt of a letter, dated Edith, N. Mex., November 22, 1902, signed "Howard B. Carpenter, United States surveyor," in which he reports the present status of the resurveys executed under his contract, and concludes as follows:

"A heavy snow on either of these mountain ranges would block our progress for some time, so that, while I may possibly be able to complete the work within the time mentioned I have great fear that circumstances over which I have no control will make it impossible for me to do so."

In view of the statement made by the Auditor of the Treasury for the Interior Department, to the effect that the appropriation in question will not be available after June 30, 1903, added to the report of Surveyor Carpenter that, for stated reasons and circumstances over which he had no control, it may be impossible for him to complete the work within the stipulated time (June 30, 1903), I have the honor to request that proper action be taken by the Department to the end of causing Congress at the present session to continue the appropriation of $31,500 for the resurvey and reestablishment of the described boundary line and to make the same available during the fiscal year ending June 30, 1904.

The following draft of an item covering the desired extension of the stated appropriation is submitted for the consideration of the Department:

"The appropriation of thirty-one thousand five hundred dollars for the resurvey and reestablishment of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, contained in the act of Congress approved July first, nineteen hundred and two, making appropriations to supply deficiencies in the appropriations for the fiscal year ending June thirtieth, nineteen hundred and two, and for prior years, and for other purposes, is hereby continued and made available until June thirtieth, nineteen hundred and four."

A copy of letter of Howard B. Carpenter, United States surveyor, is inclosed herewith.

Very respectfully, W. A. Richards, Assistant Commissioner.

The Secretary of the Interior.

Department of the Interior, December 9, 1902.

SIR: I have the honor to transmit herewith a copy of a letter of the 3d instant from the Assistant Commissioner of the General Land Office, with its inclosures, relative to the resurvey and reestablishment of the boundary line between Colorado, New Mexico, and Oklahoma, for which provision was made by an item of $31,500 in the deficiency appropriation act of July 1, 1902 (32 Stat. L., 574).

It appears from the correspondence that this appropriation will not be available after June 30, 1903, and that it may be impossible for the resurvey now being prosecuted to be completed by that date.

I therefore recommend, in accordance with the request of the Assistant Commissioner, that the above-mentiond appropriation of $31,500 for the resurvey and reestablishment of the described boun-

dary line be continued and made available during the fiscal year ending June 30, 1904.

Very respectfully,

——— ———, Secretary.

The Speaker of the House of Representatives.

Department of the Interior,
General Land Office,
Washington, D. C., May 24, 1904.

SIR: The question now arises as to the force and effect to be given to the survey of the south boundary line of the State of Colorado, which forms the north boundary of the Territories of New Mexico and Oklahoma, which was recently made under the act of July 1, 1902 (32 Stat. L., 374), and as to what further action is necessary in the premises.

A recital of the history of this boundary is necessary to a full consideration of the question, and I therefore beg to submit that section 2 of the enabling act of March 3, 1875 (18 Stat. L., 474), under [fol. 1137] which the State of Colorado was admitted into the Union, fixes this boundary "along the thirty-seventh parallel of north latitude," this being the line which had theretofore been declared the south boundary of the Territory of Colorado in section 1, act of February 28, 1861 (12 Stat. L., 172).

This line was surveyed and marked in 1868 by Ehud N. Darling, surveyor and astronomer, on behalf of the Government, but the accuracy of that survey was afterwards called in question, and, many of the monuments along the line having disappeared, the general assembly of the State of Colorado, by its act of April 11, 1901, authorized the appointment of a commissioner to act in conjunction with like representatives to be appointed by authority of the Territorial assembly of New Mexico and of your Department, should such representatives be appointed, or independently if they were not appointed, for the purpose of fixing and determining "the south boundary line of the State of Colorado, and between said State of Colorado and the Territory of New Mexico, between astronomical monument No. 6, heretofore established on the thirty-seventh parallel of north latitude and at a point on said parallel near Osier, Colo., and extending thence westward along said thirty-seventh parallel, fixed as the southern boundary line of Colorado by said act of Congress and heretofore surveyed by Ehud N. Darling for the United States, and astronomical monument No. 8, also established by said Darling on said parallel at a point about 4 miles west of Arboles, Colo., and to resurvey and reestablish said line, as hereinbefore surveyed and established by said Darling, between said monuments."

No representative was ever designated by your Department to act in conjunction with the commissioner provided for in this act, and this office is not informed as to whether the State ever took any action thereunder.

The condition of this line having been called to the attention of your Department, an examination in the field was made by Ex-

amined Frank M. Johnson, whose report was submitted to your Department by this office on April 30, 1902. This report not only disclosed the fact that some of the astronomical monuments were missing, but showed that the line as established by Darling was not in some places located upon the thirty-seventh parallel. By your letter of May 9, 1902, you stated: "In view of the condition of this line, as declared by this examination, and of its importance as a boundary between the State of Colorado upon the north and the Territories of New Mexico and Oklahoma upon the south, it is deemed advisable that it should be resurveyed and reestablished;" and you accordingly directed this office to at once furnish your Department with an estimate "for the resurvey and reestablishment on the thirty-seventh degree of north latitude between the twenty-fifth and thirty-second degrees of longitude west from Washington to be submitted to Congress."

In response to the recommendations of your Department, Congress by its act of July 1, 1902 (32 Stat. L., 574), made appropriation "For the resurvey and reestablishment, on the line of the thirty-seventh parallel of north latitude, of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, which is coincident with said parallel between the twenty-fifth and thirty-second degrees of west longitude from Washington * * * a calculated distance of 381 miles," and it was pursuant to this act, that the line has been resurveyed and reestablished by Howard B. Carpenter, United States surveyor and astronomer, on that parallel.

Prior to this resurvey the town of Edith was supposed to be in the State of Colorado, the old State boundary line being in doubt at that point. Mr. Carpenter's survey shows the greater part, if not all, of the town to be in New Mexico. An examination of the field notes and plats of this survey shows that the line established by Carpenter passes through the villages of Ortiz and La Costilla, all of which have heretofore been assumed to lie in the State of Colorado. This line is continuously marked by iron posts at mile intervals, and with eight large stone monuments marking the points of astronomical stations where observations were taken for determination of the parallel, and these markings should tend to remove all doubt as to the question of jurisdiction when the line has been properly declared to be the boundary.

The question now arises as to what further action is necessary to be taken, and in this connection the fact should be noted that the intention expressed by the general assembly of Colorado, in making provisions for the reestablishment of this boundary, does not fully coincide with the directions given by Congress. The general assembly directed the reestablishment of only a portion of this line, while Congress declared that the entire boundary should be reestablished. The general assembly directed its commissioner "to resurvey [fol. 1138] and reestablish said line, as heretofore surveyed and established by said Darling, between said astronomical monuments," while it was the intention of Congress that the line should be reestablished and relocated upon the thirty-seventh parallel, regardless of any lines or monuments established by Darling.

The power to determine controversies over boundaries arising between States, or between the National Government and any State, appears to be vested alone in the Supreme Court. Article 9 of the Articles of Confederation, 1777, declared that Congress should "be the last resort of appeal in all disputes and differences now subsisting, or that may hereafter arise, between two or more States concerning boundary, jurisdiction, or any other cause whatever," but no such power as this was vested in Congress by our Constitution. Its section 2, article 3, declares that the original power of the Government "shall extend to all * * * controversies to which the United States shall be a party; to controversies between two or more States," etc., and under this clause the Supreme Court has repeatedly asserted and exercised its original jurisdiction in hearing and determining controveries over the boundaries between States. (See R. I. v. Mass.; 12 Pet., 657; N. J. v. N. Y., 5 Pet., 284; Mo. v. Iowa, 7 How., 606; Fla. v. Ga., 17 How., 478; Ala. v. Ga., 23 How., 505; Va. v. W. Va., 11 Wall., 39; Mo. v. Ky., 11 Walk, 395; Ind. v. Ky., 136 U. S., 479; Nebr. v. Iowa, 143 U. S., 359; Va. v. Tenn., 148 U. S., 503.)

These, however, were controversies arising between individual States, and it was not until the case of the United States v. Texas was considered (143 U. S., 621) that the Supreme Court declared that it had original jurisdiction in a suit in equity brought by the United States against a State to determine the boundary line between that State and a Territory of the United States, and that that question is susceptible of original determination. A careful reading of this case discloses the opinion of the Supreme Court to the effect that the National Government in its relation to State governments occupies the status of a State, and that any controversies which arise between it and States over the boundaries between States and Territories must be settled by a proper action in that court, and nowhere have I been able to find that Congress has ever been recognized as having any power to determine such a question. Congress would, of course, have the power to fix or alter boundary lines between Territories, but after a boundary line of a State has been solemnly declared by its enabling act it appears that the Supreme Court is the only branch of the Government that has power to determine controversies thereon.

If this conclusion is correct, then neither Congress, by directing the survey of this line, nor your Department, by causing that survey to be made and approved, has performed an act which is binding upon the State of Colorado in the absence of its recognition or ratification of those acts.

It is true that this case does not present a question exactly like the question which arises between the Government and Texas over the boundary in dispute between them. There it was a question as to whether one river or another formed a boundary line, while here there can be no dispute as to the fact that the line between Colorado and New Mexico should be on the thirty-seventh parallel, yet there may be a dispute as to whether the monuments marking the line

established by Carpenter are located upon that parallel, and until all possibility for the arising of such a dispute has been eliminated the Government can not with safety recognize the boundary as having been established beyond controversy.

In view of the fact that the executive branch of the Government has no inherent powers in this matter, and has only acted in obedience to the will of Congress in making this survey, it is the opinion of this Office that the result of that survey should be reported to Congress for its consideration and to form the basis of any negotiations which it may deem necessary to induce the State of Colorado to adopt the line so established as the true boundary line or to have the matter determined by proper action in the Supreme Court.

Very respectfully, W. A. Richards, Commissioner.

The Secretary of the Interior.

Department of the Interior,
Washington, June 3, 1904.

SIR: Referring to your letter of May 24, 1904, relative to the resurvey and restablishment of the boundary line between the State of [fol. 1139] Colorado and the Territories of New Mexico and Oklahoma on the line of the thirty-seventh parallel of north latitude, made by Howard B. Carpenter under authority of the act of Congress of July 1, 1902 (32 Stat., 574), you are directed to make a full report of said survey, and upon the assembling of Congress you will transmit said report to the Department to be submitted to Congress for its consideration.

Very respectfully, E. A. Hitchcock, Secretary.

The Commissioner of the General Land Office.

Office of Secretary of State,
Denver, Colo., July 11, 1904

DEAR SIR: Would you kindly inform this office if the boundary line between Colorado and the Territory of New Mexico has been established by the United States Government?

We have several inquiries from people living at or near the line who are desirous of knowing whether they are residents of the State of Colorado or of the Territory of New Mexico.

If the line has been established, please give us all the data regarding the same. An early reply will greatly oblige.

Very truly yours, James Cowie, Secretary of State, by Timothy O'Connor, Deputy.

Hon. Ethan Allen Hitchcock, Secretary of the Interior, Washington, D. C.

August 1, 1904.

SIR: In a letter of the 11th ultimo to the Department you asked to be advised whether or not the boundary line between the State of Colorado and the Territory of New Mexico has been established

by the Government; and, if so, to be supplied with all of the data regarding same.

In answer to your letter I enclose copy of the report thereon by the Acting Commissioner of the General Land Office, under date of the 28th ultimo, which supplies you with all the information now available respecting the boundary line.

Very respectfully, ——— ———, Acting Secretary.

The Secretary of State, State of Colorado, Denver, Colo.

Department of the Interior,
General Land Office,
Washington, D. C., July 28, 1904.

SIR: I have the honor to acknowledge the receipt, by your reference for report in duplicate and return, of a letter dated July 14, 1904, from the secretary of state, Denver, Colo., relative to the establishment of the boundary line between Colorado and New Mexico and requesting all data relative to the same.

In reply I have the honor to report that under the provisions of the act of July 1, 1902 (32 Stats., 574), the south boundary of Colorado was resurveyed and reestablished by Howard B. Carpenter, United States surveyor and astronomer, on the thirty-seventh parallel of north latitude in the years 1902 and 1903, and the said resurvey and reestablishment was approved and accepted by this office February 25, 1904.

The question having arisen as to the force and effect to be given to this resurvey, this Office on May 24, 1904, submitted to the Department a letter expressing the opinion that "the result of that survey should be reported to Congress for its consideration and to form the basis of any negotiations which it may deem necessary to induce the State of Colorado to adopt the line so established as the [fol. 1140] true boundary line, or to have the matter determined by proper action in the Supreme Court."

On June 3, 1904, the Department directed this Office to make a full report of said survey, and upon the assembling of Congress to transmit said report to the Department to be submitted to Congress for its consideration.

It is the understanding of this Office that no steps are to be taken concerning the status of the lands affected by the resurvey pending action upon the report to be submitted by this Office to the Department for transmittal to Congress at its next ensuing session.

The letter from the secretary of the State of Colorado is herewith returned.

Very respectfully, J. H. Fimple, Acting Commissioner.

The Secretary of the Interior.

[fol. 1141] PLAINTIFF'S EXHIBIT No. 16

House of Representatives, 60th Congress, 1st Session

Report No. 1726

Establishing Boundary Line Between Colorado and New Mexico and Oklahoma

May 12, 1908.—Referred to the House Calendar and ordered to be printed.

Mr. Clayton, from the Committee on the Judiciary, submitted the following

Report

[To accompany S. R. 78]

The Committee on the Judiciary, to whom was referred the joint resolution (S. R. 78) establishing the boundary line between the States of Colorado and Oklahoma and the Territory of New Mexico, having considered the same, report as follows and recommend the passage of the resolution:

The joint resolution passed the Senate on April 13, having been unanimously reported from the Senate Committee on the Judiciary, no written report having been filed.

On July 1, 1902, Congress made an appropriation of $31,500—

for the resurvey and re-establishment, on the line of the thirty-seventh parallel of north latitude, of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, which is coincident with said parallel between the twenty-fifth and thirty-second degrees of west longitude from Washington, at a rate per mile to be fixed by the Secretary of the Interior, and for the examination in the field of said resurvey, a calculated distance of three hundred and eighty-seven and one-eight miles.

Under this authority a contract was entered into July 7, 1902, with Howard B. Carpenter, United States surveyor and astronomer, for the execution of the required survey and re-establishment. The work was commenced in September, 1902, and completed in October, 1903, and said resurvey and re-establishment was approved and accepted by the Interior Department February 25, 1904.

This joint resolution confirms the action of the Interior Department and establishes the southern boundary line on the thirty-seventh parallel, as fixed by the act making Colorado a Territory (February 28, 1861; 12 Stat. L., 172) and by the enabling act.

This survey makes no change in the line, but is only an attempt to find out where the line is and establish the monuments on the line, which the Interior Department now say has been done. It takes no [fol. 1142] territory from the State of Colorado, and in case of a question arising would not be binding on the State.

Senate Document No. 89, Fifty-eighth Congress, third session, gives a full history of the matter, and is appended hereto and made a part of this report.

[Senate Document No. 89, Fifty-eighth Congress, Third Session]

To the Senate and House of Representatives:

I transmit herewith, for the consideration of the Congress, a communication from the Secretary of the Interior relative to the re-establishment of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, surveyed under authority of the act of Congress of July 1, 1902 (32 Stat., 552, 574).

Theodore Roosevelt.

White House, January 10, 1905.

Department of the Interior,
Washington, January 7, 1905.

The President:

I transmit herewith a communication from the Commissioner of the General Land Office dated December 3, 1904, with accompanying papers, relative to the establishment of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, by Howard B. Carpenter, United States surveyor and astronomer, under authority of the act of Congress of July 1, 1902 (32 Stat., 552, 574).

Certain conditions have been developed in the re-establishment of this line that in the opinion of this Department requires consideration by Congress.

In the enabling act under which Colorado was admitted into the Union, the thirty-seventh parallel of north latitude was designated as the south boundary of said State, and was surveyed and marked by monuments in 1868 by Ehud N. Darling. Owing to reported inaccuracy of this survey, and the absence of many of the monuments, an appropriation was made in the act of July 1, 1902.

"For the resurvey and re-establishment, on the line of the thirty-seventh parallel of north latitude, of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, which is coincident with said parallel between the twenty-fifth and thirty-second degrees of west longitude from Washington."

The thirty-seventh parallel of north latitude, as established by Howard B. Carpenter under authority of said act, passes through several towns lying wholly within the State of Colorado, according to the supposed boundary as originally surveyed, and along the entire line there is a material and, in many places, excessive variance between the lines of the two surveys.

The State of Colorado, by act of general assembly of April 11, 1901, authorized the appointment of a commissioner to act in conjunction with representatives of the General Government and of the

adjacent Territories for the purposes of fixing and determining a part of said south boundary upon the line theretofore surveyed and established by Darling, but it does not appear that any further action was taken looking to fixing said boundary by such commission, as contemplated by said act. The act under which Carpenter's survey was made provided for the re-establishment of the entire south boundary, "on the line of the thirty-seventh parallel of north latitude."

A more comprehensive statement as to the variance between the two lines of survey is contained in the letters of the Commissioner of the General Land Office transmitted herewith.

As the re-establishment of said south boundary excludes a strip of territory over which the State of Colorado has heretofore exercised sovereign jurisdiction, I respectfully recommend that the matter be submitted to Congress for its consideration.

Very respectfully, E. A. Hitchcock, Secretary.

[fol. 1143]

Department of the Interior,
General Land Office,
Washington, D. C., December 3, 1904.

SIR: I have the honor to acknowledge the receipt of your letter of June 3, 1904, directing that a full report be made of the resurvey and reestablishment of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, on the line of the thirty-seventh parallel of north latitude, executed by Howard B. Carpenter, United States surveyor and astronomer, under authority of the act of Congress of July 1, 1902. (32 Stat., 574.)

In reply I have the honor to report that by the act of February 28, 1861 (12 Stat., 172), entitled "An act to provide a temporary government for the Territory of Colorado," the south boundary of Colorado was fixed as the thirty-seventh parallel of latitude between the twenty-fifth and thirty-second meridians of longitude west of Washington.

The initial determination of the location of the thirty-seventh parallel of latitude in the locality mentioned was made in 1857, under the direction of Col. Joseph E. Johnston, U. S. Army, who established the same as far west as his determination of the one hundred and third meridian west of Greenwich, said meridian being the legal east boundary of New Mexico. In 1859 Captain Macomb, U. S. Army, under orders from the War Department, established a new monument at a point 11,582 feet east of the Johnston monument because of errors made in Colonel Johnston's determination, and in 1868 Ehud N. Darling, United States surveyor and astronomer, under contract with this Office, established the north boundary of New Mexico from the Macomb monument west to the one hundred and ninth meridian, on the thirty-seventh parallel of latitude, as determined by a series of astronomical observations and calculations. Mile corners are reported to have been established on the line wherever the nature of the country would permit for a distance of 331¾ miles. Some of the country traversed by this line, however, was reported as too rough to chain, and triangulation was resorted to in order to

carry the line forward and witness corners were established thereon at accessible points, thus leaving wide stretches of the line in certain places unmarked in any manner.

In 1873 it became necessary to establish the east boundary of the Southern Ute Indian Reservation in Colorado, the same being the one hundred and seventh meridian as extended north from the thirty-seventh parallel, the south boundary of the State. Under instructions from this Office, R. C. Darling, United States surveyor, established at a point on the E. N. Darling line the southeast corner of the said reservation estimated as on the one hundred and seventh meridian. A question having arisen as to the correctness of such location, S. S. Gannett, of the Geological Survey, in 1897 determined for the Indian Office the true location of the said reservation corner by astronomical observations.

His attempt to find a public-land corner with which to connect his determination having developed the absence of such corners, an extended examination of the E. N. Darling line both east and west thereof was made by Frank M. Johnson, examiner of surveys, under the direction of this Office. As a result of his investigations it became apparent that in that locality very few traces of the boundary line as established by E. N. Darling were to be found, and such as were found were not by any means on the same parallel of latitude.

The fact was developed that Darling's astronomical station No. 7, which was established near the present town of Edith, was lost, and while its approximate location was fixed by the bearings to the several mountain peaks reported by Darling no trace of the monument itself remained.

These astronomical monuments were established by Darling as a result of a series of astronomical observations for latitude, and between these monuments the parallel was marked by corners either at mile points, or when the nature of the country was such as not to permit the corners to be so established, then witness corners were established at accessible points.

Astronomical monument No. 6 was established at a distance of 34 miles east of No. 7 and astronomical monument No. 8 at a distance of 27 miles west of No. 7. From astronomical monument No. 6, Examiner Johnson, in 1900, identified the Darling line westward for a distance of 15 miles, at which point all traces of the old line were lost and could not be identified in any manner, the topography not agreeing with the original notes in any particular, the old blazes disappearing and the country not being that described in the Darling field notes. The first corner identified west of this point was at a distance of about 5 miles, where an old corner was found, much decayed and lying on the ground, but identified as being in its original location by the bearing trees. This mile corner was about 11 chains south of the last trace of the line found to the east, and from it a portion of the line for a distance of about 5 miles was identified, beyond which, to the west, all traces of the mile corners [fol. 1111] had disappeared. Indications of a line were found only by means of old blazes on trees and topographic features which themselves disappeared as the line approached the location of astronomical monument No. 7.

When this latter point was reached, there was a difference of nearly half a mile in the locations of the line brought from the east and of the point identified as the most probable location of the monument itself, which, as before stated, had been lost. From this location west to astronomical monument No. 8 the corners established by Darling were few in number, on account of the alleged precipitous character of the country over which the line ran. Long triangulations were used, and in the distance of some 27 miles only 9 corners were established. Of these 9 corners partial identification was made of 2 only, and upon these facts being reported to the Department this office was directed, by letter dated May 9, 1902, to furnish an estimate for the resurvey and reestablishment of the thirty-seventh parallel between the twenty-fifth and thirty-second degree of longitude, in order that the same might be submitted to Congress.

Such estimate was submitted May 10, 1902, and by the act of July 1, 1902 (supra), an appropriation was made of $31,500—

"for the resurvey and reestablishment, on the line of the thirty-seventh parallel of north latitude, of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, which is coincident with said parallel between the twenty-fifth and thirty-second degrees of west longitude from Washington, at a rate per mile to be fixed by the Secretary of the Interior, and for the examination in the field of said resurvey, a calculated distance of three hundred and eighty-seven and one-eighth miles."

Under this authority a contract was entered into July 7, 1902, with Howard B. Carpenter, United States surveyor and astronomer, for the execution of the required survey and reestablishment. The work was commenced in September, 1902, and completed in October, 1903.

Nine stations were occupied and at each a series of astronomical observations for latitude were made by the most approved methods, astronomical monuments were placed on the line, and the parallel was established between the astronomical monuments. Mile corners were established and marked by durable iron pipes 4 feet long, with flanges at the bottom, set 2 feet in the ground and surmounted by a brass cap with suitable markings stamped thereon to indicate their location.

The location of the monuments established by E. N. Darling in 1868 and found by H. B. Carpenter were noted and the markings thereon were then destroyed. The line was carried by Carpenter from the west to the east and, while on certain portions of the line the corners established by Darling were found, the fact was developed that in other portions no evidences of the Darling line remained for intervals of 10 or 15 miles, and in one instance a distance of 50 miles interval without any evidences of the Darling line.

Several settlements and towns of importance were found near or on the resurveyed parallel, the most important of which was the town of Edith, in the vicinity of which one of Darling's astronomical monuments was established. An astronomical station was located by

Carpenter just west of this town and the parallel was found to cross the main street thereof, leaving the larger part of the town south of the line. In the vicinity of La Boca the line was found to pass between the station on the railroad and the settlement.

The Gannett monument was found only 3 chains south of the parallel, but none of the Darling monuments were found east or west thereof nearer than 25 miles.

West of this monument such old corners as were identified were from 5 to 10 chains south of the reestablished parallel, but east thereof the first of the old corners was found at a distance of half a mile south. This difference between the lines gradually diminished toward the east until the reestablished line passed to the south of the old line, but again crossed to the north, and when the west boundary of the State of Kansas was reached the reestablished parallel was found to be one-half mile north of the southwest corner of the State.

Based upon these conditions, this office, by letter dated May 24, 1904, submitted a report to the Department setting forth the legal aspect of the changes made in the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, and I have the honor to renew the recommendations made therein.

Very respectfully, J. H. Fimple, Acting Commissioner.

The Secretary of the Interior.

[fol. 1145]

Department of the Interior,
General Land Office,
Washington, D. C., July 2, 1902.

SIR: In accordance with an estimate regularly submitted, an appropriation was made in the general deficiency bill for the resurvey of the south boundary of Colorado at a rate per mile to be fixed by the Secretary of the Interior.

This line was originally surveyed in 1868 and its location has been in dispute for several years owing to the almost entire obliteration of all corners. At its last session the legislature of Colorado passed an act requesting its resurvey by the General Government, and an extensive examination made by this Office proved this to be a necessity.

As the location of one town and of many settlers will be in doubt until this line is resurveyed, which may result in serious complications in election matters, as has been the case in the past, and which caused the legislature of Colorado to take action in the matter, it is necessary that this resurvey should be made as soon as possible.

I therefore respectfully request to be authorized to enter into a contract with Howard B. Carpenter to make this resurvey at the rate of $75 per mile, which is the figure upon which the estimate was based and which is considered to be reasonable for a survey of this character in a country mostly mountainous. Mr. Carpenter has recently completed the survey of the boundary line between Utah and Arizona in a manner that is entirely satisfactory to this Office. The natural obstacles encountered upon this line were greater than

those found upon any similar line surveyed under this Office, notwithstanding which the survey was completed within the specified time, and a critical examination of both the field and astronomical work proves both to have been done in an excellent manner and the survey to be one of the best ever executed under this Office. Mr. Carpenter desires to make this resurvey and is prepared to enter upon the work without delay.

Very respectfully Binger Hermann, Commissioner.

The Secretary of the Interior.

Department of the Interior, July 3, 1902.

SIR: Referring to your office letter of the 2d instant, relative to the above-entitled subject, you are advised that in accordance with your request you are hereby authorized to enter into a contract with Howard B. Carpenter to make the resurvey of the south boundary of Colorado, at the rate of $75 per mile.

Very respectfully, ——— ———, Secretary

The Commissioner of the General Land Office.

Department of the Interior:
General Land Office,
Washington, D. C., December 3, 1902.

SIR: The act of Congress approved July 1, 1902, making appropriations to supply deficiencies in the appropriations for the fiscal year ending June 30, 1902, and for prior years and other purposes (32 Stats., 552), under head of "Public land service" (p. 571), provides inter alia as follows:

"Boundary line, Colorado, New Mexico, and Oklahoma: For the resurvey and reestablishment, on the line of the thirty-seventh parallel of north latitude, of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, which is coincident with said parallel between the twenty-fifth and thirty-second degrees of west longitude from Washington, at a rate per mile to be fixed by the Secretary of the Interior, and for the examination in the field of said resurvey, a calculated distance of three hundred and eighty-seven and one-eighth miles, to continue available during the fiscal year nineteen hundred and three, thirty-one thousand five hundred dollars."

Concurring in the recommendation of this Office per letter of July 2, 1902, the Secretary of the Interior, under date of July 3, 1902, authorized this Office to enter into a contract with Howard B. Carpenter providing for the resurvey of the South boundary of Colorado, at the rate of $75 per mile.

Said contract was duly awarded July 3, 1902, to Howard B. Carpenter, United States surveyor, and provided for the resurvey of the boundary line between Colorado, New Mexico, and Oklahoma, liability, $29,000, payable from the quoted appropriation.

[fol. 114] In acknowledging, per letter of October 23, 1902, the receipt of the "original" form of contract and bond awarded Howard B. Carpenter, United States surveyor, the Auditor of the Treasury for the Interior Department called the attention of this office to the terms of the act making the quoted appropriation, and held that in the opinion of his office said appropriation "is not available and can not lawfully be used after the end of the current fiscal year (June 30, 1903) to pay for the survey as contracted for or for the field examination of the same."

By office letter of October 30, 1902, Howard B. Carpenter, United States surveyor, was advised of the construction placed on the terms of the stated appropriation by the Auditor of the Treasury for the Interior Department, and was requested to report as to the present status of the resurveys embodied in his contract of July 1, 1902, and whether or not he would be able to complete the work and make due return thereof within the stipulated time (June 30, 1903). A copy of said letter is herewith inclosed.

This office is now in receipt of a letter, dated Edith, N. Mex., November 22, 1902, signed "Howard B. Carpenter, United States surveyor," in which he reports the present status of the resurveys executed under his contract, and concludes as follows:

"A heavy snow on either of these mountain ranges would block our progress for some time, so that while I may possibly be able to complete the work within the time mentioned, I have great fear that circumstances over which I have no control will make it impossible for me to do so."

In view of the statement made by the Auditor of the Treasury for the Interior Department, to the effect that the appropriation in question will not be available after June 30, 1903, added to the report of Surveyor Carpenter that, for stated reasons and circumstances over which he had no control, it may be impossible for him to complete the work within the stipulated time (June 30, 1903), I have the honor to request that proper action be taken by the Department to the end of causing Congress at the present session to continue the appropriation of $31,500 for the resurvey and reestablishment of the described boundary line and to make the same available during the fiscal year ending June 30, 1904.

The following draft of an item covering the desired extension of the stated appropriation is submitted for the consideration of the Department:

"The appropriation of thirty-one thousand five hundred dollars for the resurvey and reestablishment of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, contained in the act of Congress approved July first, nineteen hundred and two, making appropriations to supply deficiencies in the appropriations for the fiscal year ending June thirtieth, nineteen hundred and two, and for prior years, and for other purposes, is hereby continued and made available until June thirtieth, nineteen hundred and four."

A copy of letter of Howard B. Carpenter, United States surveyor, is inclosed herewith.

Very respectfully, W. A. Richards, Assistant Commissioner.

The Secretary of the Interior.

Department of the Interior, December 9, 1902.

SIR: I have the honor to transmit herewith a copy of a letter of the 3d instant from the Assistant Commissioner of the General Land Office, with its inclosures, relative to the resurvey and reestablishment of the boundary line between Colorado, New Mexico, and Oklahoma, for which provision was made by an item of $31,500 in the deficiency appropriation act of July 1, 1902 (32 Stat. L., 574).

It appears from the correspondence that this appropriation will not be available after June 30, 1903, and that it may be impossible for the resurvey now being prosecuted to be completed by that date.

I therefore recommend, in accordance with the request of the Assistant Commissioner, that the above-mentioned appropriation of $31,500 for the resurvey and reestablishment of the described boundary line be continued and made available during the fiscal year ending June 30, 1904.

Very respectfully, ——, Secretary.

The Speaker of the House of Representatives.

[fol. 1147]

Department of the Interior,
General Land Office,
Washington, D. C., May 21, 1901.

SIR: The question now arises as to the force and effect to be given to the survey of the south boundary line of the State of Colorado, which forms the north boundary of the Territories of New Mexico and Oklahoma, which was recently made under the act of July 1, 1902 (32 Stat. L., 574), and as to what further action is necessary in the premises.

A recital of the history of this boundary is necessary to a full consideration of the question, and I therefore beg to submit that section 2 of the enabling act of March 3, 1875 (18 Stat. L., 474), under which the State of Colorado was admitted into the Union, fixes this boundary "along the thirty-seventh parallel of north latitude," this being the line which had theretofore been declared the south boundary of the Territory of Colorado in section 1, act of February 28, 1861 (21 Stat. L., 172).

This line was surveyed and marked in 1868 by Ehud N. Darling, surveyor and astronomer, on behalf of the Government, but the accuracy of that survey was afterwards called in question, and many of the monuments along the line having disappeared, the general assembly of the State of Colorado, by its act of April 11, 1901, authorized the appointment of a commissioner to act in conjunction with like representatives to be appointed by authority of the Territorial assembly of New Mexico and of your Department, should such representatives be appointed, or independently if they were not ap-

pointed, for the purpose of fixing and determining "the south boundary line of the State of Colorado, and between said State of Colorado and the Territory of New Mexico, between astronomical monument No. 6, heretofore established on the thirty-seventh parallel of north latitude and at a point on said parallel near Osier, Colo., and extending thence westward along said thirty-seventh parallel, fixed as the southern boundary line of Colorado by said act of Congress and heretofore surveyed by Ehud N. Darling for the United States, and astronomical monument No. 8, also established by said Darling on said parallel at a point about 4 miles west of Arboles, Colo., and to resurvey and reestablish said line, as hereinbefore surveyed and established by said Darling, between said monuments."

No representative was ever designated by your Department to act in conjunction with the commissioner provided for in this act, and this office is not informed as to whether the State ever took any action thereunder.

The condition of this line having been called to the attention of your Department, an examination in the field was made by Examiner Frank M. Johnson, whose report was submitted to your Department by this office on April 30, 1902. This report not only disclosed the fact that some of the astronomical monuments were missing, but showed that the line as established by Darling was not in some places located upon the thirty-seventh parallel. By your letter of May 9, 1902, you stated: "In view of the condition of this line, as declared by this examination, and of its importance as a boundary between the State of Colorado upon the north and the Territories of New Mexico and Oklahoma upon the south, it is deemed advisable that it should be resurveyed and reestablished;" and you accordingly directed this office to at once furnish your Department with an estimate "for the resurvey and reestablishment on the thirty-seventh degree of north latitude between the twenty-fifth and thirty-second degrees of longitude west from Washington to be submitted to Congress."

In response to the recommendations of your Department, Congress by its act of July 1, 1902 (32 Stat. L., 574), made appropriation "For the resurvey and reestablishment, on the line of the thirty-seventh parallel of north latitude, of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma, which is coincident with said parallel between the twenty-fifth and thirty-second degrees of west longitude from Washington * * * a calculated distance of 381 miles," and it was pursuant to this act that the line has been resurveyed and reestablished by Howard B. Carpenter, United States surveyor and astronomer, on that parallel.

Prior to this resurvey the town of Edith was supposed to be in the State of Colorado, the old State boundary line being in doubt at that point. Mr. Carpenter's survey shows the greater part, if not all, of the town to be in New Mexico. An examination of the field notes and plats of this survey shows that the line established by Carpenter passes through the villages of Ortiz and La Costilla, all of which have heretofore been assumed to lie in the State of Colorado. This line is continuously marked by iron posts at mile intervals, and with

eight large stone monuments marking the points of astronomical stations where observations were taken for determination of the parallel, and these markings should tend to remove all doubt as to the question of jurisdiction when the line has been properly declared to be the boundary.

[fol. 1148] The question now arises as to what further action is necessary to be taken, and in this connection the fact should be noted that the intention expressed by the general assembly of Colorado, in making provisions for the reestablishment of this boundary, does not fully coincide with the directions given by Congress. The general assembly directed the reestablishment of only a portion of this line, while Congress declared that the entire boundary should be reestablished. The general assembly directed its commissioner "to resurvey and reestablish said line, as heretofore surveyed and established by said Darling, between said astronomical monuments," while it was the intention of Congress that the line should be reestablished and relocated upon the thirty-seventh parallel regardless of any lines or monuments established by Darling.

The power to determine controversies over boundaries arising between States or between the National Government and any State appears to be vested alone in the Supreme Court. Article 9 of the Articles of Confederation, 1777, declared that Congress should "be the last resort of appeal in all disputes and differences now subsisting or that may hereafter arise between two or more States concerning boundary, jurisdiction, or any other cause whatever," but no such power as this was vested in Congress by our Constitution. Its section 2, article 3, declares that the original power of the Government "shall extend to all * * * controversies to which the United States shall be a party; to controversies between two or more States," etc., and under this clause the Supreme Court has repeatedly asserted and exercised its original jurisdiction in hearing and determining controversies over the boundaries between States. (See R. I. v. Mass., 12 Pet., 657; N. J. v. N. Y., 5 Pet., 284; Mo. v. Iowa, 7 How., 606; Fla. v. Ga., 17 How., 478; Ala. v. Ga., 23 How., 505; Va. v. W. Va., 11 Wall., 39; Mo. v. Ky., 11 Wall., 395; Ind. v. Ky., 136 U. S., 479; Nebr. v. Iowa, 143 U. S., 359; Va. v. Tenn., 148 U. S., 503.)

These, however, were controversies arising between individual States, and it was not until the case of the United States v. Texas was considered (143 U. S., 621) that the Supreme Court declared that it had original jurisdiction in a suit in equity brought by the United States against a State to determine the boundary line between that State and a Territory of the United States, and that that question is susceptible of original determination. A careful reading of this case discloses the opinion of the Supreme Court to the effect that the National Government in its relation to State governments occupies the status of a State, and that any controversies which arise between it and States over the boundaries between States and Territories must be settled by a proper action in that court, and nowhere have I been able to find that Congress has ever been recognized as having any power to determine such a question. Congress would,

of course, have the power to fix or alter boundary lines between Territories, but after a boundary line of a State has been solemnly declared by its enabling act it appears that the Supreme Court is the only branch of the Government that has power to determine controversies thereon.

If this conclusion is correct, then neither Congress, by directing the survey of this line, nor your Department, by causing that survey to be made and approved, has performed an act which is binding upon the State of Colorado in the absence of its recognition or ratification of those acts.

It is true that this case does not present a question exactly like the question which arises between the Government and Texas over the boundary in dispute between them. There it was a question as to whether one river or another formed a boundary line, while here there can be no dispute as to the fact that the line between Colorado and New Mexico should be on the thirty-seventh parallel, yet there may be a dispute as to whether the monuments marking the line established by Carpenter are located upon that parallel, and until all possibility for the arising of such a dispute has been eliminated the Government can not with safety recognize the boundary as having been established beyond controversy.

In view of the fact that the executive branch of the Government has no inherent powers in this matter, and has only acted in obedience to the will of Congress in making this survey, it is the opinion of this Office that the result of that survey should be reported to Congress for its consideration and to form the basis of any negotiations which it may deem necessary to induce the State of Colorado to adopt the line so established as the true boundary line or to have the matter determined by proper action in the Supreme Court.

Very respectfully, W. A. Richards, Commissioner.

The Secretary of the Interior.

[fol. 1149]

Department of the Interior,
Washington, June 3, 1904.

SIR: Referring to your letter of May 24, 1904, relative to the resurvey and reestablishment of the boundary line between the State of Colorado and the Territories of New Mexico and Oklahoma on the line of the thirty-seventh parallel of north latitude, made by Howard B. Carpenter under authority of the act of Congress of the July 1, 1902 (32 Stat., 574), you are directed to make a full report of said survey, and upon the assembling of Congress you will transmit said report to the Department to be submitted to Congress for its consideration.

Very respectfully, E. A. Hitchcock, Secretary.

The Commissioner of the General Land Office.

Office of Secretary of State,
Denver, Colo., July 11, 1904.

DEAR SIR: Would you kindly inform this office if the boundary line between Colorado and the Territory of New Mexico has been established by the United States Government?

We have several inquiries from people living at or near the line who are desirous of knowing whether they are residents of the State of Colorado or of the Territory of New Mexico.

If the line has been established, please give us all the data regarding the same.

An early reply will greatly oblige.

Very truly, yours, James Cowie, Secretary of State, by Timothy O'Connor, Deputy.

Hon. Ethan Allen Hitchcock, Secretary of the Interior, Washington, D. C.

August 1, 1904.

SIR: In a letter of the 11th ultimo to the Department you asked to be advised whether or not the boundary line between the State of Colorado, and the Territory of New Mexico has been established by the Government; and, if so, to be supplied with all of the data regarding same.

In answer to your letter I inclose copy of the report thereon by the Acting Commissioner of the General Land Office, under date of the 28th ultimo, which supplies you with all the information now available respecting the boundary line.

Very respectfully, ——— ———, Acting Secretary.

The Secretary of State, State of Colorado, Denver, Colo.

Department of the Interior,
General Land Office,
Washington, D. C., July 28, 1904.

SIR: I have the honor to acknowledge the receipt, by your reference for report in duplicate and return, of a letter dated July 11, 1904, from the secretary of state, Denver, Colo., relative to the establishment of the boundary line between Colorado and New Mexico and requesting all data relative to the same.

In reply I have the honor to report that under the provisions of the act of July 1, 1902 (32 Stats., 574), the south boundary of Colorado was resurveyed and reestablished by Howard B. Carpenter, United States surveyor and astronomer, on the thirty-seventh parallel of north latitude in the years 1902 and 1903, and the said resurvey and reestablishment was approved an daccepted by this office February 25, 1904

[fol. 1150] The question having arisen as to the force and effect to be given to this resurvey, this Office, on May 24, 1904, submitted to the Department a letter expressing the opinion that the "result of that survey should be reported to Congress for its consideration and to form the basis of any negotiations which it may deem necessary to

induce the State of Colorado to adopt the line so established as the true boundary line, or to have the matter determined by proper action in the Supreme Court."

On June 3, 1904, the Department directed this Office to make a full report of said survey, and upon the assembling of Congress to transmit said report to the Department to be submitted to Congress for its consideration.

It is the understanding of this Office that no steps are to be taken concerning the status of the lands affected by the resurvey pending action upon the report to be submitted by this Office to the Department for transmittal to Congress at its next ensuing session.

The letter from the secretary of the State of Colorado is herewith returned.

Very respectfully, J. H. Fimple, Acting Commissioner.

The Secretary of the Interior.

[fol. 1151] PLAINTIFF'S EXHIBIT No. 17

Senate, 60th Congress, 2d Session

Document No. 604

Boundary Line Between Colorado and Oklahoma and New Mexico

Message from the President of the United States returning, without Approval, Senate Joint Resolution Number 78, "Establishing the Boundary Line Between the States of Colorado and Oklahoma and the Territory of New Mexico."

December 19, 1908.—Read; ordered to be printed.

To the Senate:

I return herewith, without approval, Senate joint resolution number 78, "Establishing the boundary line between the States of Colorado and Oklahoma and the Territory of New Mexico," for the reasons set forth in the following communication of the Attorney-General:

I have the honor to report, with respect to joint resolution (S. R. 78), referred by you to this department, that the purpose of the said resolution appears to be to correct the boundary line between the Territory of New Mexico and the States of Colorado and Oklahoma. The practical effect of establishing the new boundary line, so far as the State of Colorado is concerned, would be to remove from the jurisdiction of that State and add to the Territory of New Mexico a strip along nearly the whole of the southern boundary of the said State, in which there are located at least five post-offices and an appreciable number of inhabitants. So far as I am aware no action has been taken by the legislature of the State of Colorado assenting to or accepting the location of the boundary as proposed in this re-

solution, and, from such inquiry as I have been able to make in the very limited time since the resolution reached me, I am led to think that such assent or acceptance on the part of the State is improbable. Under these circumstances I think it is of very doubtful expediency to have the line mentioned in the resolution accepted by the United States as the true boundary. It is not necessary to express an opinion as to the legal effect of such a resolution upon the rights of the United States or of the Territory of New Mexico or the duties of federal or territorial officers; but it is clear that the resolution would not be binding upon the State of Colorado, and its adoption might lead to conflicts of jurisdiction within the long strip of territory to which I have referred and possibly to the escape from legal punishment of those guilty of crimes committed within the said strip. If it is deemed desirable to establish the true boundary line, an appropriate method to effect this would be to invoke by appropriate proceedings the original jurisdiction of the Supreme Court.

[fol. 1152] I therefore respectfully advise that the joint resolution in question do not receive your signature.

Theodore Roosevelt.

The White House, December 19, 1908.

[S. R. 78, Sixtieth Congress of the United States of America; at the second session, begun and held at the city of Washington on Monday, the seventh day of December, one thousand nine hundred and eight.]

Joint Resolution Establishing the Boundary Line Between the States of Colorado and Oklahoma and the Territory of New Mexico

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the establishment of the boundary line between the States of Colorado and Oklahoma and the Territory of New Mexico, authorized by the Act of Congress approved July first, nineteen hundred and two (Thirty-second Statutes at Large, page five hundred and seventy-four), "For the resurvey and reestablishment on the line of the thirty-seventh parallel of north latitude * * *," it being the boundary line established by the enabling Act (March third, eighteen hundred and seventy-five; Eighteenth Statutes at Large, page four hundred and seventy-four) under which Colorado was admitted into the Union; said survey having been made and monuments set on said line and having been approved and accepted by the Interior Department, under date of February twenty-fifth, nineteen hundred and four, and known as the Carpenter survey, be, and the same is hereby, accepted by the United States on its part as the proper location of the thirty-seventh parallel and the true boundary line between the said States and Territory.

J. G. Cannon, Speaker of the House of Representatives.
Charles W. Fairbanks, Vice-President of the United States and President of the Senate.

I certify that this joint resolution originated in the Senate.
Charles G. Bennett, Secretary, by H. M. Rose, Assistant Secretary.

[fol. 1155] PLAINTIFF'S EXHIBIT No. 18

Special Instructions for the Survey of Public Lands in New Mexico

Department of the Interior

U. S. Surveyor General's Office for the District of New Mexico

Santa Fe, New Mexico, June 20, 1907.

Mr. A. E. Compton, U. S. Deputy Surveyor, Newton, Illinois.

DEAR SIR: Your contract No. 408, dated this day, provides for the survey of the following line, to-wit:

The exterior boundaries and subdivisional lines of fractional township 24 north, range 4 east; north boundary and subdivisional lines of fractional township 13 north, range 2 west; north and east boundaries and subdivisional lines of township 23 north, range 2 east; south and west boundaries and subdivisional lines of fractional township 32 north, range 4 west; the east boundary and subdivisional lines of fractional township 16 north, range 3 west; west boundary and subdivisional lines of fractional township 32 north, range 7 east; the survey of all valid unsurveyed small holding claims which may be found in any of said townships; also the retracement and reestablishment of such lines of public surveys as may be found to be absolutely necessary. Total liability not to exceed $5,200.00, payable from appropriation for the survey and resurvey of public lands for the fiscal year ending June 30, 1907.

* * * * * * *

[fol. 1154] Tp. 32 N., R. 4 W.

South boundary.—Run West from the established corner of Tps. 31 and 32 N., Rs. 3 and 4 W., establishing regular corners, except that at 5 miles 77.59 chs. you will establish the corner of Tps 31 and 32 N., Rs. 4 and 5 W.

West boundary.—Thence run due north setting regular corners to an intersection with the Colorado-New Mexico boundary established by H. B. Carpenter in 1902-3, where you will establish a proper closing corner with connection distance to the nearest corner of said boundary.

East boundary.—By retracing the east boundary of sec. 36, and farther if found necessary, you will ascertain if the same is defective in courses or distances. You will resurvey the east boundary of sec. 12, and set a closing corner at intersection of the Carpenter line as before directed; and destroy any other closing corner which you may find to remain upon a former State bdry.

Plaintiff's
Exhibit No. 19 1156

Fractional *Township N°* 32 North *Range N°* 4 West of the New Mex Principal *Merid*

G f F e E d D o C b B

g Sec 6 Sec 5 Sec 4 Sec 3 Sec 2

Colorado

H

San Juan Riv. 96.15 M 97M 98M Colorado & New Mexico Corrales Sta. 99.103 M East Boundary Line 100 M San Juan Riv. 101 M (true pt) 101.2 M

h

Sec 7 353.42 — 44.14 | 35.57 | 51.55 | 51.53 — 34.63 | 40 | N 89 58 E

Sec 8 366.44 — 45.76 | 51.54 | 51.59 | 51.63 | 51.68 — West

Sec 9 366.96 — 45.89 | 51.77 | 51.75 | 51.73 | 51.71 — N 89 56 W

Sec 10 366.68 — 45.89 | 51.75 | 51.70 | 51.64 | 51.59 — S 89 50 W

Sec 11 365.12 — 45.78 | 51.49 | 51.35 | 51.21 | 51.07 — 45.50 | 51.00 — S 89 43 W

I

77.40 — 34.83 | 34.90 | Sec 18 619.72 | 34.96 | 35.03 | N 89 57 E

79.80 — Sec 17 640 — N 89 55 W

80.30 — Sec 16 640 — Canon Quinto — N 89 46 W

80.20 — Sec 15 640 — S 89 54 W

80.30 — Sec 14 640 — S 89 45 W

K

77.53 — 35.08

79.85

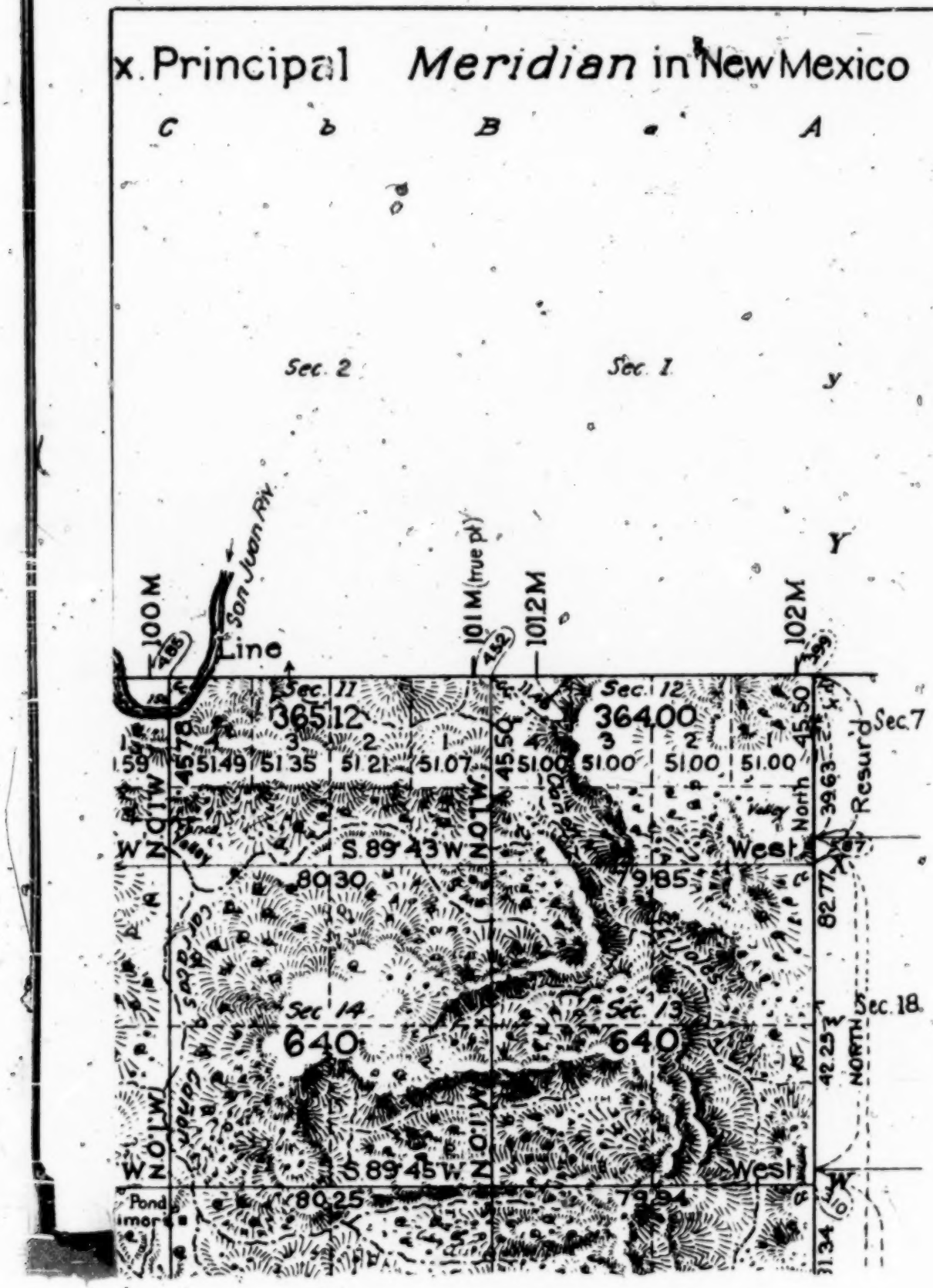
80.32

80.18 — Pond

80.25

P]
E:

x. Principal *Meridian* in New Mexico



154M 155M 156M 157M 158M 159M

Retraced 81.00 | 79.00 | Colorado & New Mexico boundary line | Retraced 82.21

9.62 | 7.09 | 8.20 | 8.30 | 8.43 | 8.53

68.75 | 68.90 | 69.20 | 69.40 | 68.90 | 68.60

Sec. 19 — 540.02 — Sec. 20 — 552.40 — Sec. 21 — 554.40 — Sec. 22 — 553.20 — Sec. 23 — 550.00 — Sec. 24 — 547.28

Sublett — Conejos — Road to Antonito — Spring — Valley — Cabresto

Sec. 30 — 628.00 — Sec. 29 — 640 — Sec. 28 — 640 — Sec. 27 — 640 — Sec. 26 — 640 — Sec. 25 — 640

Big Horn Peak — Mesa

W.C. 100 N. Wit. Sec. Cor. 100 Chs. S.

Sec. 31 — 628.52 — Sec. 32 — 640 — Sec. 33 — 640 — Sec. 34 — 640 — Sec. 35 — 640 — Sec. 36 — 640

Crestonio — Wit. ¼ Cor. 101 Lks E. — M. Quintana — Jarosa — Cuna de Onda — Los Pinos — J.B. Durán — J.B. Gallegos — Arroyo Cañon — Taylor entino Cañon — J.N. Ruybelids — J.C. Sisneros — San Miguel Chapel — J.D. & A. Penter — Pinos Springs

North

39.98 — Resurveyed N 89° 57' W. — Wit. Sec. Cor. (Ch.) N 89° 57' W.

Total number of Acres 10953.82

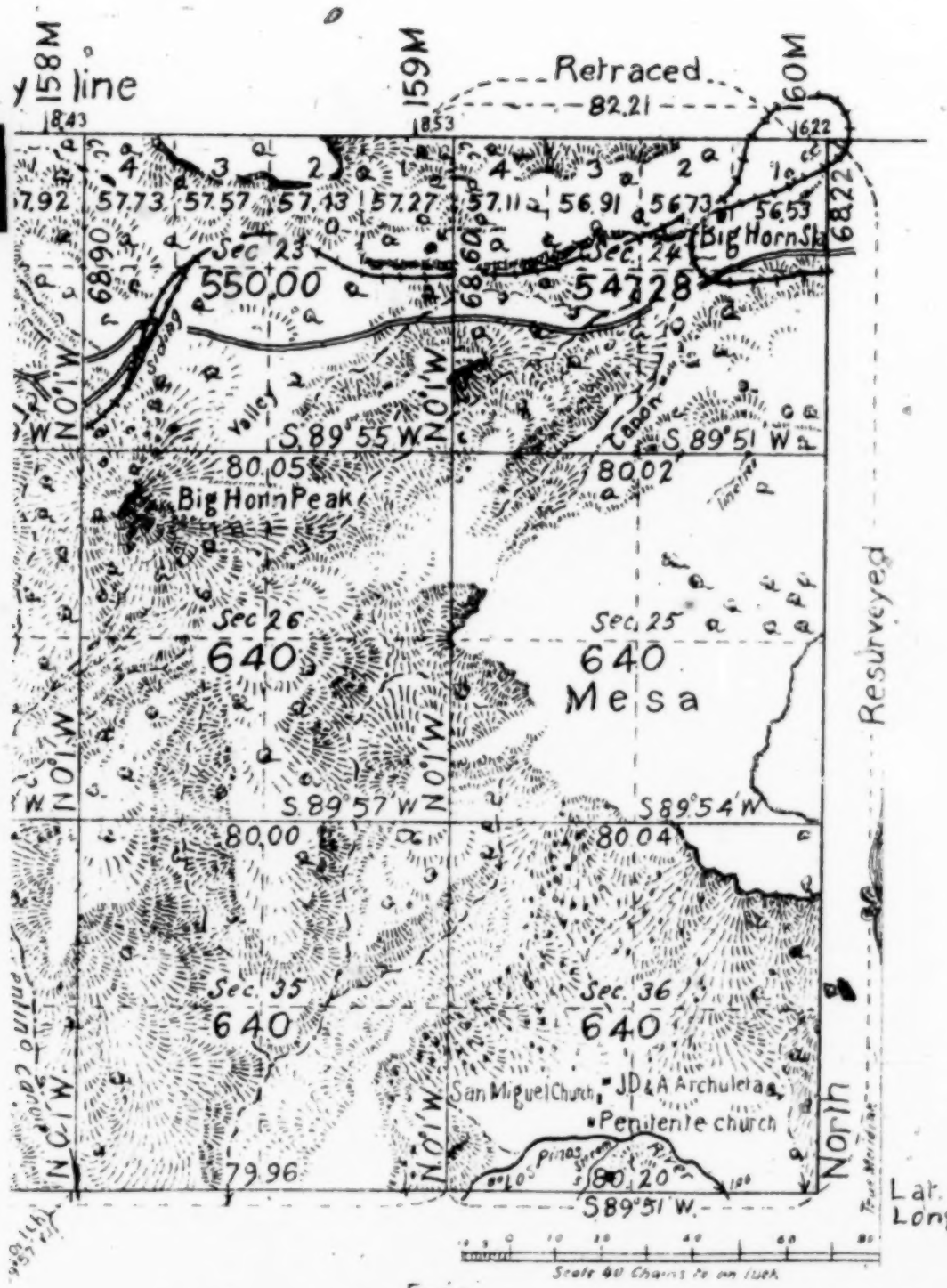
Scale 40 Chs.

Surveys Designated	By Whom Surveyed	Date of Contract N° 408	Amount of Surveys M Chs Lks	When Surveyed	
Township lines W	Alonzo E Compton	June 20, 1907	2 - 68 - 75	July 16, 08	
Subdivisions	" " "	" " "	26 - 22 - 33	July 9-July 18, 08	
Connections	" " "	" " "	56 - 39	" 3 "	
Rein N.M. & Colo boy line	" " "	" " "	3 - 02 - 21	July 10-18, 08	
Resur E & S bdries	" " "	" " "	8 - 66 - 64	June 30-8 '08	
Colo-N M boy line	H B Carpenter			1902	

Frac.

The above Map of Township N° 3 Principal Meridian in New notes of the survey thereof on file in t

Surveyor General's Office, Santa Fe N.M April 22, 09



Lat. 36°57'N.
Long. 106°08'W.

Certificate

I hereby certify that this tracing of Frac. T. 32 N. R. 7 E. N.M.P.M. is a true and correct copy of the official plat of said Township on file in this office.

U.S. Surveyor General's Office.
Santa Fe, N.M. Sept. 16, 1922.

Manuel A. Sanchez
Surveyor General.

Frac.
The above Map of Township No. 32 North *of Range No.* 7 East of the Principal *Meridian* in New Mexico *is strictly conformable to the field notes of the survey thereof on file in this Office which have been examined and approved.*

Surveyor General's Office,
Santa Fe N.M April 22,09

W. W. Mark
Sur. Gen.

Subdivision.—If the east boundary prove defective in course, (see pages 79 to 82 and Manual), establish a sectional guide meridian as shown in figures 7, plate 6, and where section lines fail to close within limits of course to the east boundary, set closing corners thereon. The remaining subdivisions will be regular and as shown in the diagram.

Tp. 32 N., R. 7 E.

Complete the exteriors and subdivisions in the same manner as in Tp. 32 N., R. 4 W., and as per diagram.

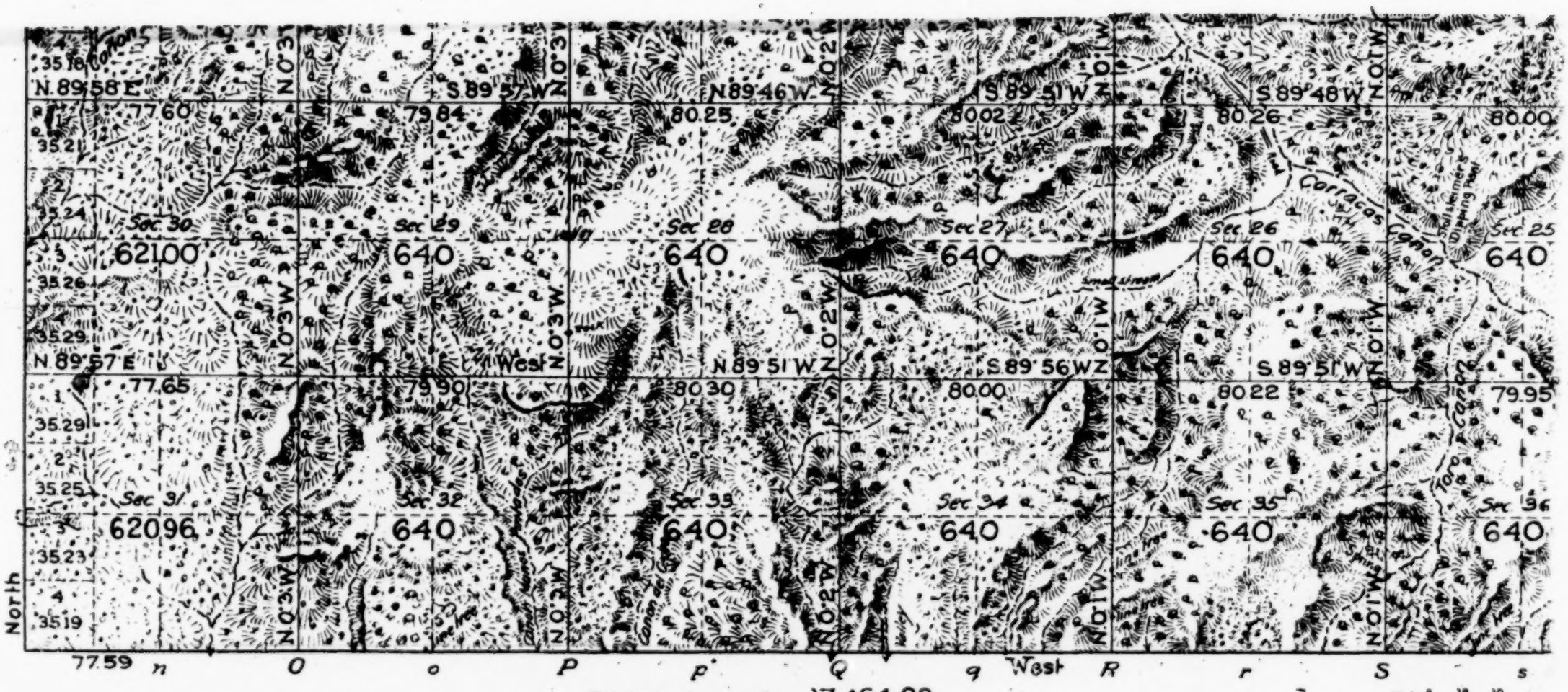
[fol. 1155] Certificate

I hereby certify that the foregoing is a true and exact copy of the original instructions to govern the survey of T. 32 N., R. 4 W and T. 32 N., R. 7 E. as drafted by this office and approved by the Commissioner of the General Land Office, under contract No. 408, dated June 20, 1907.

Manuel A. Sanchez, U. S. Surveyor General. (Official Seal, United States Surveyor General's Office, New Mexico.)

Surveyor General's Office, Santa Fe, New Mexico, September 12, 1922.

(Here follow Plaintiff's Exhibits Nos. 19 and 20, marked side folio pages 1156 and 1157.)

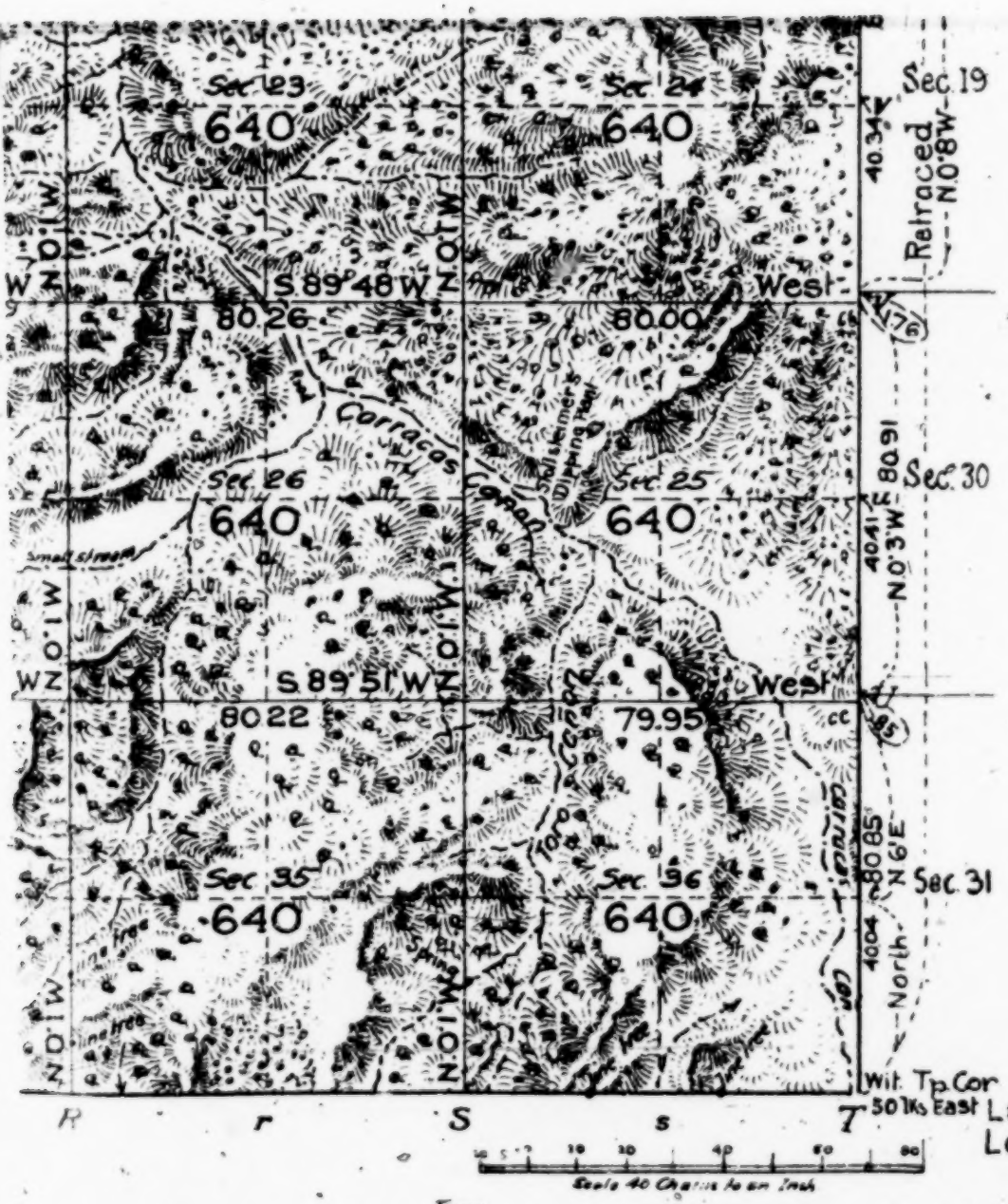


Total number of Acres 17.464.82

Surveys Designated	By Whom Surveyed	Date of Contract 408	Amount of Surveys M Ch. Lks.	When Surveyed	
Township lines S. & W.	Alonzo E. Compton	June 20, 07	10 - 08 - 89	Oct 30 - Nov 9, 07	
Subdivisions	" " "	" " "	41 60 - 69	Nov. 5, 07 Apl 16 08	
Connections	" " "	" " "	48 - 51	" 4 " " 15	
Retraced E. bdy	" " "	" " "	4 - 5 - 87	" 5 " Nov 9	
Colo & N.M. bdy line	H.B. Carpenter			" 14 & 15, 02	
Resur E. bdy	Alonzo E. Compton	" " "	0 - 45 - 50	" 9, 07	

The above Map of Township N. [illegible] Range [illegible] West of the New Mexico Principal Meridian in New Mexico is a true and correct plat of the survey thereof on file in the records of the Surveyor General's Office

Surveyor General's Office
Santa Fe, N.M. April 22, 1909



Certificate.

I hereby certify that this tracing of Frac. T. 32 N., R. 4 W. of the N. M. Principal Meridian is a true and correct copy of the official plat of said township on file in this office.

U.S. Surveyor General's Office
Santa Fe, N.M. Sept. 16, 1922.

Manuel A. Sanchez
U.S. Surv. Gen'l.

The above Map of Frac Township No. 32 North, of Range No. 4 West of the Principal Meridian, in New Mexico is strictly conformable to the field notes of the survey thereof on file in this Office which have been examined and approved

Surveyor General's Office
Santa Fe. N.M April 22, 1909

Jno. W. March
Sur'r Gen'l